

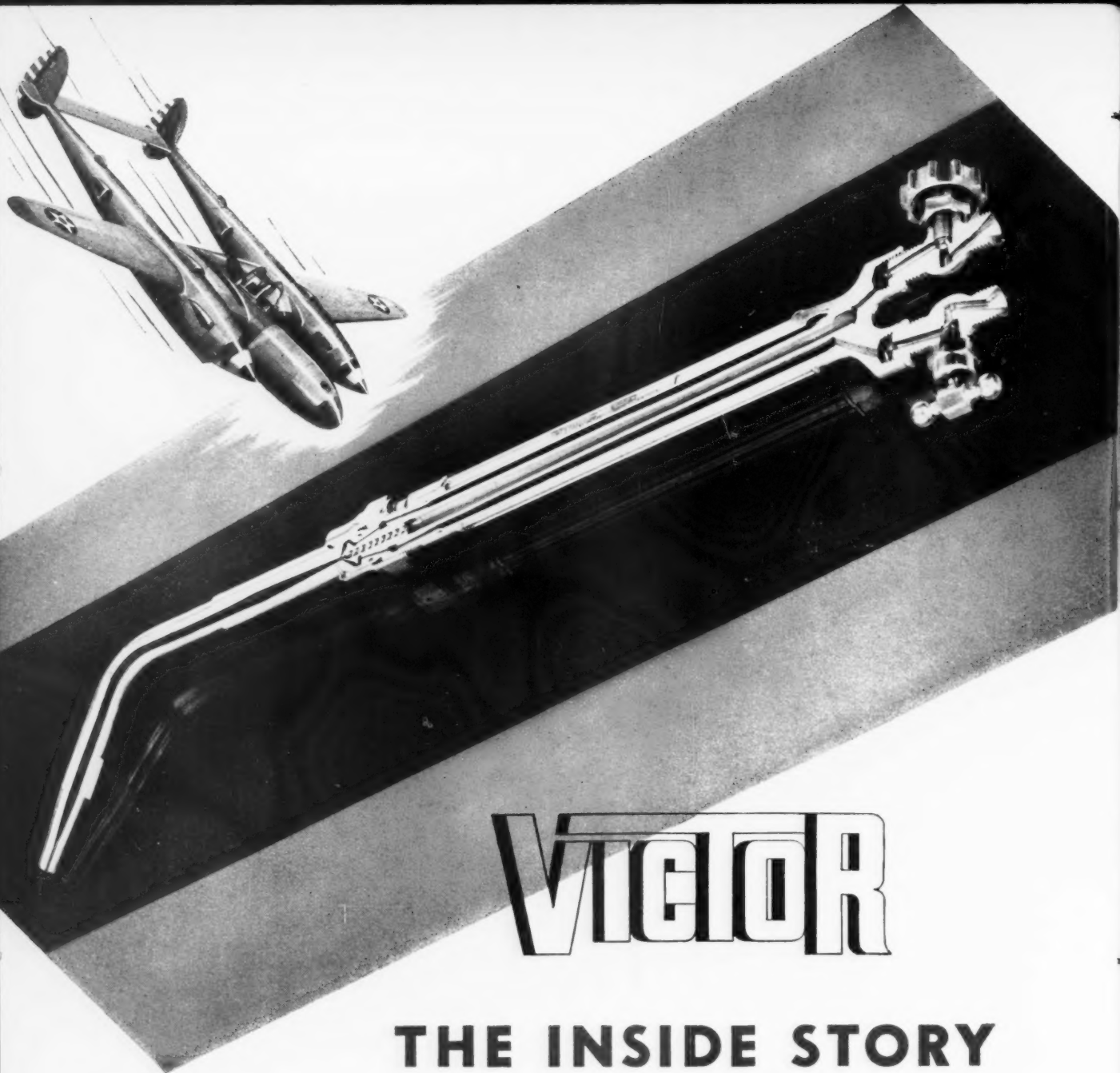
WESTERN INDUSTRY

VOLUME VII NO. 2



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February, 1942



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WESTERN INDUSTRY

The Journal of Western Development

JUST A *Rough Idea*

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CONTENTS for FEBRUARY

Production Design

OPM has ceased to function as such but its Production Requirements Plan will continue in operation under the War Production Board. Sort of guinea pig, knowledge of the plan is not yet general but it seems destined to set the pattern when we go to an all-out system of allocations instead of the present priorities. Inclusion in the plan is still voluntary with only a few thousand plants operating under its terms. You will probably want to know what this is all about. See page 6.

Highways

Federal aid for highway development in the near future will be limited to those projects sanctioned by the Army and Navy, Kruckman writes from Washington. Important part of the picture for development of new war plants, the West will get the lion's share in the new road-building program. See page 8. In allocating new war plants for western territory, government policy recently is to keep these plants away from the seacoast. This is benefiting inland communities such as Denver, Salt Lake, Provo, Spokane and many others. See page 15.

Plant Protection

The importance of industrial plant lighting is discussed from the viewpoint of needs of the small plant. The saboteur is just as much interested in your small plant making defense materials as he is in the large units. See page 10. Equally important to the operation of small plants is conservation of man-power through proper plant safety methods. See page 13. The government has set a national training program for 100,000 plant executives. See page 17.

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To every Western Grower, Shipper and Carrier:

TODAY the United States is at War. It affects us all, either directly or indirectly. Primarily, it means that we must work longer and harder to deliver more goods... more food... more of everything... deliver it *faster* and in *better condition* than ever before!

To perform this task... a task which will help make Victory ours... there are several considerations which affect us mutually... growers, shippers, carriers and container manufacturers alike: Conservation of materials... speed-up in handling operations... lessening of damage to goods in transit... all-out effort to move goods faster... and patience in standing-by for vital Army and Navy orders which are going through our plants.

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LOS ANGELES

Louis F. Holtzman, *Editor*
Arnold Kruckman, *Associate Editor*

Full Time Job

THE study of priorities regulations and their practical application to enable a plant, large or small, to stay in business is no part-time job. It is no job to be delegated to a stenographer or secretary regardless of the size of a business. The larger corporations already have installed departments with an expert head and legal advice available whose business it is to study priorities regulations and nothing else. Every business man is urged to study priorities regulations with respect to his individual line of effort. Don't attempt to study all regulations issued. They change from day to day. They are too numerous for any one individual to attempt to cover a wide field. Depending on size and volume, every business dependent for its existence for material supplies should set up a priorities department or delegate some responsible person to study and to know the regulations affecting that business and to keep abreast of new developments.

Priority regulation is the law of the land. We must recognize that it is being enforced with few failures. The system, like Topsy, "just grew up" and is constantly expanding. Some have taken the attitude that it need not be studied immediately; better wait until this situation settles down. Many are completely confused by priorities regulations. Nevertheless the law is very specific and clear and it is the volume of regulations that confuses. The regulations governing priorities and allocation of materials in World War I were not clear and were vague in spots. The experiences of the past have evolved the present laws and regulations. The present system of priorities as we know it, will probably be with us from three to six months more and in an increasingly drastic form. Ultimately we will go to a full-fledged allocations program where government agencies using the experience of the past months will allocate materials—just that.

Looking Ahead

FAR WESTERN business in December and January was the best on record, establishing new tops for rate of industrial activity. We know, of course, that production of the aircraft and shipbuilding plants accounts for a good part of this increased volume and there must be considerable question as to the future trend of these when the war is over. But the increase permeates throughout the industrial structure of the West—machinery, metal working plants, production of foodstuffs, lumbering, clothing and other lines. The Bank of America puts the case of the future of the West succinctly in its review of business conditions.

"Hidden in the mass of Far Western statistics," the review states, "may be found the beginnings of a revolution in the western economy. Its former preponderantly agricultural features are being retained but on top of them is being imposed a great industrial plant which will have a material effect on the future character of western business. That it will be a better balanced, more mature economy goes without saying.

"The Pacific coast's transition to a war-time footing is mov-

ing forward with great rapidity. The potentialities of the situation for post war social convulsions are perhaps something more than imaginary. But when they have run their course, the Far West should face the beginnings of its Golden Age."

War in the Pacific

WE HERE in the western coastal area naturally take our Pacific war more seriously than do those who dwell east of the Rocky mountains. It can be recalled by many of us that former president Theodore Roosevelt when the question of naval armaments was under discussion took the occasion to bring home to the East the fact that we *did* have a Pacific coast which needed guarding by sending the American fleet to the Pacific. There is no question but that this country and Great Britain were caught flatfooted in the Pacific with only meagre forces at some vital points. However, the situation may not be so bad as it looks. For comparative purposes, we are to have an army soon of three million men. Eventually this may be doubled. Now in the Philippines it can be gleaned from war communiques that an American and native army of only 50,000 is battling with 200,000 Japs. At Singapore, it is indicated that defending forces are only 20,000. Representatives of the Chiang Kai-shek government at San Francisco now estimate that the Japanese have no more than 400,000 troops in all of Malaya, Indo-China, Thailand, the Philippines, Borneo and other places in the Pacific Southwest. This is cutting the lines pretty thin. The figures on the United Nations troops now available are worth keeping in mind in watching the war's progress.

Salesman Problem

WITH more and more concerns going over to full-time war production and the restrictions on strategic materials going into civilian consumption, the problem of what to do with one's sales force is a hard nut to crack. Many concerns naturally will have to make heavy curtailment of sales forces. The automobile industry has had to lay off men en masse. In Detroit the automobile units are making an organized effort to place these men who find their livelihood destroyed, at least temporarily, by going to other industries and making surveys.

Now when the war is over with, industry notwithstanding will have made much progress—acquired new techniques, etc. much of which will be gained from war production methods. In other words, in many lines the consumer goods now offered will be obsolete when marketing problems again arise. To keep abreast of the times, manufacturing concerns naturally are already viewing post-war problems. Here is an opportunity now to use salesmen part time or full time to build up good will. Salesmen with nothing to sell or with restricted lines can now get better acquainted with customers—discuss the need for improvement—get customers' ideas—strengthen trade relations. On the subject of keeping up customer relations, George H. Scragg, director of advertising and sales promotion for White Motor Co. last month said: "We must protect our market and keep our customers sold. Thus, we are using an increased advertising schedule for 1942."

DESIGN FOR PRODUCTION

Operation Under the Production Requirements Plan Is Voluntary Action by Industrial Plants and Provides Medium of Transition to a Drastic Allocations System—Form PD-25A Sets Future Pattern

WATCH the progress of the streamlined Production Requirements Plan. It is well worth the time spent to become familiar with, as all industry may be operating under this plan or something similar when we are functioning under the straight allocations plan which is in the making. There will always be priorities in one form or another.

The new Production Requirements Plan now supersedes the Defense Supplies Rating Plan which has been effective for seven months, an integral part of the priorities set-up, but concerning which little has been heard generally. Now, inclusion in the plan is voluntary. Only 2500 plants of the nation have so far elected to come under the provisions of the plan. OPM had declared it was a success and workable. It simplifies paper work and eliminates red tape, they asserted.

Following the formation of the new War Production Board on January 21, it was announced that the Production Requirements Plan would be continued as an integral part of the priorities system.

We are now in a transition phase of the priorities system and within from three to six months will go to a system of full-fledged allocations depending how long it takes to gather basic information on supplies, needs and plant facilities. At least these are the plans now. The present Production Requirements Plan is the medium, at the moment, which will gradually aid the transition. Eventually, when it is considered that the necessary information has been compiled at Washington, we will

go to the allocations program. WPB officials expect that the allocations system will be based primarily on the Production Requirements Plan.

With vital statistics in hand with the government concerning individual plant operation, inventories, anticipated demand and ultimate consumption of the product, plant management under the allocations system will be told just how necessary operations are considered officially and given rating for the acquisition of materials. Obviously this differs from the priorities system where a manufacturer not doing 100 per cent defense work applies for a rating and tries to prove a case. Eventually through the medium of quarterly reports to be called for, the government will be in possession of vital current statistics and expected needs of every individual plant.

What is this Production Requirements Plan? (WPB division of Priorities, form PD-25A.) Under the Defense Supplies Rating Plan which is superseded by the new plan, only plants working on defense orders were eligible to come within its provisions. The new plan will issue ratings and priority numbers for plants also working on essential civilian production. Those doing neither defense work nor producing what are considered as essential civilian needs will of course be out of the picture as far as obtaining scarce and strategic material is concerned.

The new plan has been designed to enable the manufacturer to present a complete picture of his operations in relation

to defense and civilian needs and to state his production requirements for these needs. In this manner it will be possible for the division of Priorities to give the manufacturer the proper priority rating. With a priorities rating attained, manufacturers in placing orders simply endorse future orders with a notation to the supplier and used in turn by this supplier to his suppliers.

Obviously the earlier form PD-25A is submitted, the sooner the manufacturer will receive priority assistance. However, forms submitted now will call for priority assistance only until March 31, 1942, as quarterly reports are a part of the plan. For instance, forms submitted now must contain vital operating statistics, inventories, sales volume and final disposition of output for the quarter ended September 30, 1941. On this information largely, together with data concerning anticipated needs for the nearby future, will be given the priority ratings to apply for the current quarter.

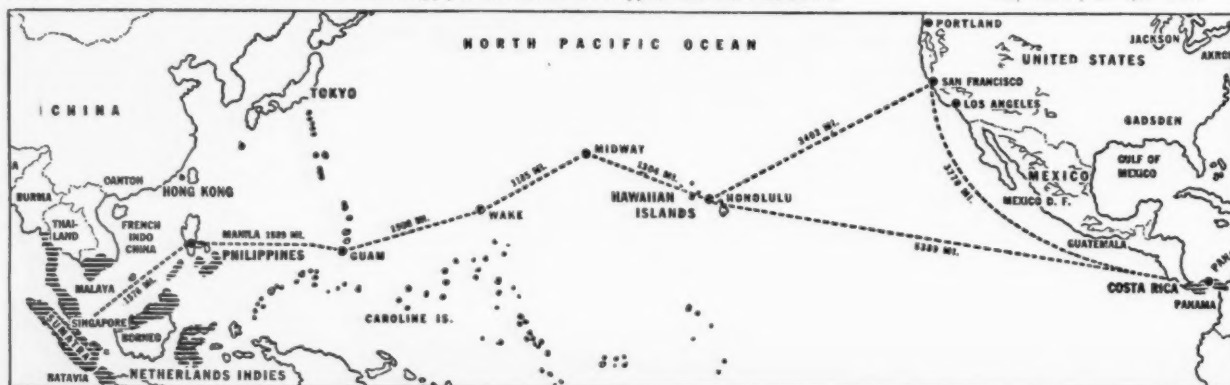
Capital Items Out

Preference ratings or allocations will be determined by the importance of the products in relation to defense and essential civilian needs as evidenced by the preference ratings received directing delivery of the products, by the end use of the products, by the types and quantities of materials used in their manufacture and by such policies as may be established from time to time by the WPB.

No machinery, machine tools, large equipment or other capital items may be obtained by the preference ratings assigned under the Production Requirements Plan, which functions just as its name implies. Nor can materials for the improvement or additions to or expansions of existing property be obtained through this means. These materials must be obtained by the usual rating procedure.

• Our lifeline is in the Pacific and if effectually cut will vitally affect this country's industrial production and our way of living. Outlined on the map below is the long journey needed to transport rubber and tin from Singapore and the Netherlands East Indies; rubber to Los Angeles and Akron where it is processed. From this source also come chromite, manganese and tungsten for hardening steel. Hitherto the bulk of our tungsten supplies journeyed down the tortuous Burma road to Rangoon, then shipped across the Pacific. We are increasing our domestic output slowly. World supply of manila fiber to make rope comes from the Philippines. There is no substitute. Other vital supplies are graphite for lubricating machines and mica for insulation. A third of our chromium supply comes from the Philippines and New Caledonia.

Map courtesy Goodyear Tire.



In essence the plan gives the government all vital information necessary on which to determine the order of priorities ratings and this information is furnished by calendar quarters. If there is any change in the situation affecting a manufacturer such as acquisition of additional defense work, interim reports can be made during any quarter.

In simple language, the manufacturer electing to come under the plan after the preliminary application sheet, fills out in section B his volume of business in the previous quarter together with an estimate of anticipated volume during the period for which a rating is sought.

Section C indicates the inventories on hand, raw materials in process, and finished goods. Many concerns keep books in a manner to make this information readily available. In other cases, perpetual inventories can be used in the initial reports.

Section D gives a breakdown of sales volume furnishing data on the amount of defense business entitled to high priority ratings as compared with production of consumer goods. In many lines of business it is difficult to ascertain the ultimate use of products—whether or not they find their way to defense work or needs. The OPM in determining ratings, considers three factors: 1) Character of products; 2) existing ratings, and 3) final use. It may be difficult, for instance, for a manufacturer of bolts and nuts to determine which products finally go to defense work.

Section E lists all materials used, basic raw materials. Inventories at the beginning of the quarter, intake throughout, and amounts on hand finally are listed. If anticipated requirements for the coming quarter are in excess of the previous quarter, an explanation must be given. Seasonal factors, etc., should be explained by letter. Manufacturers are urged to be conservative in estimates of anticipated needs. In this respect, interim reports can be filed if requirements increase or if the character of the business changes for such reasons as the acquisition of a greater amount of strictly defense work.

Section F describes fully all materials and items manufactured. Such items as lumber, porcelain, paper, etc., not under priorities control need not be shown. In section G the manufacturer indicates maintenance and repair items which will receive the same ratings as those applying to new materials. Here the total anticipated purchases for the coming three months must be shown.

Priorities men maintain that the Production Requirements Plan makes for simplification and eliminates red tape. The manufacturer, after his rating has been acquired, when ordering material simply indicates that he is operating under Defense Rating order No. 90 followed by his priority number given under the plan.

PRIORITIES AND SUCH—

Elementary Principles of Underlying Thinking by Government Officials on Priorities Outlined — Washington Division Heads at Pacific Coast Clinics Say Civilian Economy "Will Be Cut to Bone"

ASIDE from strictly defense necessities, Priorities as defined by WPB officials means equality of sacrifice. In the welter of increasing governmental regulation, it is still worth while to review the underlying principles of priorities which have three phases.

Basically, regulation No. 1 is aimed to put all on an equal basis with regard to the character and essential need of the article produced. The regulation requires everyone to accept war work when offered and requires every industrialist to maintain minimum inventories.

The first phase relating to priorities ratings in effect gives the holder the first chance in order of rating to available materials. Hence we have the P orders.

Second phase relates to raw material allocation control or M orders. This is the method of guiding basic material supplies to special industries. They are designed to exercise control at the source of supply.

Third phase relates to L orders or limitations designed to bring demand in line with supply. This will eliminate as users of scarce materials those manufacturers not producing what are considered strictly essential goods, civilian or defense, who are prohibited from manufacturing, such as has been the case with producers of automobiles, washing machines and many other items.

Viewing the nearby future with respect to war necessities indicates a steady stream of L orders to come and many manufacturers will find that they must get into strictly defense work or they are through for the duration as producers of durable goods for civilian consumption.

Civilian rationing is being given more and more attention and is controlled by the Office of Price Administration headed by Leon Hederson.

WAR CLINICS

War with all its grim realities was brought home to more than four thousand businessmen, industry executives and others who attended the priorities clinics held in Los Angeles and San Francisco last month. Important executives of the former OPM who journeyed from Washington said in no uncertain terms that the civilian economy had to be "cut to the very bone—drastically and quickly."

Mid-January sessions at Los Angeles and San Francisco were packed to the doors with overflow meetings listening in

DON'T go to Washington for a direct decision first hand on priorities and other defense regulations affecting your business or to seek defense contract work. Washington is overcrowded and officials overwhelmed with work. Consult your local representative of the proper defense agency with your problems first. Larger cities already have offices and representatives taken from the ranks of business to handle problems, decide important questions and divert these into their proper channels.

through loud speaker systems. Away from their duties at Washington and attending the clinics were John H. Martin, assistant director of policy, division of priorities; Mason Maughum, head of the industrial contact and education unit; Carl Eicher, assistant administrator of production requirements plan; James Hughes, head pri-



Pacific Coast Visitor
JOHN H. MARTIN
Priorities Policy Director

ority specialist, office of Petroleum Coordinator; James Douglas, senior materials analyst of copper and other metals, and Dr. John W. Harriman, head priority specialist, division of civilian supply.

E. L. Mathy, first vice president Victor Equipment Co., introduced the speakers at the San Francisco meeting. The sessions in both cities were sponsored by local chambers of commerce in collaboration with the National Association of Manufacturers.

HIGHWAYS FOR THE WEST

Federal Aid on New Roads Will Be Restricted to Those Projects Which Are Given Approval by Military Arms—the Pacific States Now Virtually in Front Lines to Benefit—More Allocations Loom

By ARNOLD KRUCKMAN
Associate Editor

WASHINGTON, D. C.—Highways will be built with Federal money only when the Army and Navy approve. The Public Roads Administration has given this notice to all the states. It is significant that the chief activities ahead will take place in the New England states, in the Gulf states, and in the states of the



Pacific West. It is generally understood that the states of the Pacific West have the first call on the Federal money for highway building. There will be wide and various road building in the Pacific West, no matter how much road building is

slowed up elsewhere. The emphasis in the military mind is on the roads to be constructed out there. The fact obviously is a barometric indication of the magnitude of the Federal activities that will expand in the Pacific West.

Even at the risk of tiresome repetition, the potentialities inherent in this program are stressed in order that you people out there may realize that the greatest development ahead in the United States will take place in your area. The Pacific West literally holds the future of the United States. The vast unfolding drama of history is being played on the immense reaches of the Pacific ocean. Even the Germans are expected to make their drive towards the Indian ocean on one side, and towards the Pacific via Russia on the other. Military students more and more clearly point out that the War of the World will come to its climax in the Pacific. Europe will be a ravaged and devastated continent of murdering gangsters, but it will fall into place as a historic incident of the main theme.

When you grasp this thought you become conscious of the impulse behind the urge in Washington to build and build and build in the Pacific West. The eastern United States has all it can do to take care of our own needs and our commitments in Europe and elsewhere. That is why the vast and irrepressible energies of America will be expended in building plants, homes, farms, military fastnesses, on the western side of the Rockies. It is literally true that part of this push is an intelligent

plan, and part is that upwelling instinct we call the cosmic urge for the want of an understanding yet unrevealed.

The latest official figures collected by the federal government show that we have spent between June 1940 and the end of 1941, a gross total of \$28,200,994,000 on war needs. It is startling to find that the official figures reveal over 20 per cent, or more than one-fifth, of this colossal sum has been spent on your side of the Rockies.

Regional Totals

This regional total amounts to \$5,608,823,000. It is broken down thus: Arizona, \$31,057,000; California, \$3,030,468,000; Colorado, \$152,548,000; Idaho, \$2,750,000; Montana, \$8,028,000; Nevada, \$80,043,000; New Mexico, \$12,565,000; Oregon, \$172,981,000; Utah, \$197,826,000; Washington, \$985,951,000; Wyoming, \$7,883,000; Alaska, Hawaii, etc., \$924,723,000.

You will notice that approximately 15 per cent of the gross over-all total for the nation was spent in California and Washington alone. These huge sums were spent in the Pacific West before the realization came to the people who formulate our program of government that it is tremendously important to spend money in the West. These expenditures were only the forerunners of the plan now in action. Most of this money has been spent on planes, ships and military works. The impending development includes more ships and shipyards, more planes and airplane factories, more cantonments, perma-

One of the best-informed writers at the Nation's Capital, Arnold Kruckman, presents each month pithy comments on political developments and their practical application to industry of the West. Any reader who wishes additional information may write to him directly, using business letterhead, at 1120 Vermont Ave., N.W., Washington, D.C. Inquiries will be answered free of charge. Copies of pending congressional bills may also be obtained free of charge.

nent military posts, naval reservations, arsenals, and airfields. It means huge enterprises in housing for which there is now approximately a billion dollars in the treasury. It means factories in the areas away from the coast; new ports and superloading ports; new communities;

places to house possible evacuees; it means new factories for products necessary to support essential civilian efficiency.

Notwithstanding all this potential prosperity the average industrialist should bear in mind that he can get into this vast current only if he swings into military production or production for essential civilian needs. It is easy to determine military production, but it is more difficult to recognize the things that are essential for civilian efficiency. Mark well they do not say *civilian comfort*. This government anticipates within six months most of the people of this country will strip for all-out war effort. That means women as well as men, old as well as young. It literally means everybody able to work. Today less than 6,000,000 persons work at war jobs. Next year approximately 25,000,000 are expected to be employed. You have read, of course, that half our national income is to be channelled into war work. But you may not know that more than half the workers are expected to be engaged in war work as fast as the facilities can be provided.

We have already witnessed the abrupt conversion of the automobile industry. In the same way, other industries, entire industries, are to be stripped to the buff and shifted to war work. In many cases the changes will be gradual, and in many the changes will not be so overwhelmingly complete.

Save Your Tin

It is reported here that new war plans and policies are in the making for such industries as those which provide the service and the means of transportation; those which make office appliances; copper and other metal products; food; chemicals, cosmetics, drugs, health inventories; stokers, furnaces, stoves, boilers, bathtubs, sanitary equipment, plumbing, heating appliances; farm machinery; rubber products; textiles; things for the use of electricity; printing, publishing, pulp, paper; motion pictures and the theaters in which they are shown.

The whole field of containers is a headache. Tin, which chiefly we must now obtain from Bolivia, may be used for food, and chiefly for food to be supplied to the armed forces; but there will be none for other industries that use containers. Tooth paste, for instance, is expected to go out for the duration, and tooth powder undoubtedly will take its place. Paper containers are expected to disappear, since we have depended upon Europe for such large volume of pulp. Glass also is in doubt. Glass containers are made with soda ash, and soda ash is required increasingly in munitions. Mr. Lessing Rosenwald's War Bureau of Industrial Conservation is studying the problem, and experimenting with various

substitutes. It is testing cloudy glass, the glass with impurities inherent in glass from which soda ash is absent. And it is trying out containers of waxed paper for certain purposes. Silver is proposed in all seriousness for containers of certain foods and compounds. Rubber heels, incidentally, will disappear. Woolen textiles are regarded as ended by next winter.

You must realize, surely, that labor is an increasing trouble. This has a bearing on the policy to compel industries to shut down. If you don't make things for war or for essential civilian needs, you will find that your industry will be abruptly stopped. They want to force you to get into war work or to release your facilities and your workers for jobs connected with war or essential needs. From now on these things will happen without notice, and without much regard to anybody's convenience. They still talk about softening the blow for Small Business, but even the members of the Small Business Advisory committee have little faith in what they say. They trust Floyd Odlum, but they do not trust those beyond Odlum. Each time the committee meets here in Washington it audibly wonders if the meeting is the last.

Plans for Small Business

The latest plan for Small Business salvation is called the "Limited Allocation Plan." The purpose is to supply Small Business just sufficient raw material to keep it afloat until a way be found to convert it to war business. The plan is to be tried out on a group of small business units in Marion county, Indiana, where there are a number of small metal manufacturing plants. It is promised if it works there, it will be put in operation all over the country.

They report one of your great problems in the Pacific West is housing. Mr. Roosevelt has \$300,000,000 to spend on housing as he sees fit. He has allocated large sums to communities in Washington, Utah, Colorado, and California, for demountable houses, trailers, dormitories, and similar units that may be erected swiftly in large numbers. More are coming. They tell us the problem of increasing labor shifts in most Pacific West communities is restricted by lack of housing. This lack is said to have been found to be one reason for the inability of the shipyards to put more workers on the job. Navy wants continuous seven-day work-week, but labor unions want double time and time and a half for overtime or holidays. The government in Washington does not wish to settle the trouble by fiat. It seeks collective agreement without penalizing the government or robbing the union workers of their holidays or extra pay.

The capital ardently hopes the settle-

ment with shipbuilders through AFL unions in the San Francisco Bay region and the Puget Sound territory will provide the basis for settlement with the shipbuilding workers of the CIO in Southern California.

The supply of labor for Southern California airplane factories is regarded in the capital as a crucial over-all war labor problem. Government urges the fullest use of local help. It hopes employment of local people will bypass the stultifying problem of housing shortage. Mr. Roosevelt's advisers have convinced him that women, negroes and aliens should be put to work as fast as possible. And where there is need, government urges training facilities be expanded.

Labor Supplies

It is recognized there must be immigration of labor into the Pacific West, and to this end it is negotiating with labor unions to transfer entire communities of working groups homogeneous to the job they are expected to do. This program is expected to be necessary when your building program expands. The unions deliver whole colonies by providing railroad fares for all individuals. It is anticipated there will be need to ship considerable numbers of plumbers, carpenters, sheet metal workers, and similar skilled workers to the Pacific West. The road building program is expected to make necessary that the East send you skilled men to operate the shovels, draglines, bulldozers, and trucks. At least 50 per cent of your road builders may be sent from the Atlantic seaboard.

The regular system of appropriations practiced by Congress in normal times has disappeared. Bills slide through Congress piecemeal, and move so fast and in such irregular manner that it is hardly possible to determine exactly how much is available or how it is to be spent. Earlier appropriations unspent still have a total of 17 billions for ordnance, planes and parts, naval ships, posts and depots, merchant ships, and other supplies. Upwards of \$4,000,000,000 is marked for expenditure immediately in the Pacific West. In addition, the latest budget submitted by the President provides \$1,358,000,000 for expenditure by the Air Corps, and \$707,091,470 for Navy airplanes. The Navy also will get \$3,000,000,000 for new ships. This budget also calls for \$284,000,000 for military construction, \$22,750,000 for Bonneville transmission lines, \$90,885,000 for reclamation, \$4,000,000 for Bonneville power plant, \$19,175,000 for Grand Coulee generators, \$145,314,000 for rivers, harbors and flood control, \$2,102,275 for Indian Bureau, and \$609,600 for the National Park Service.

Under normal circumstances these figures would indicate what might be expected as Federal expenditures the next



Short range fast fighting planes must be crated and shipped to destination when they go to our Allies abroad, to the Orient or Hawaiian Islands. Bombers with a 3,500 mile cruising range usually can be flown to fighting areas. Workmen here "wrap up" an airplane for shipment—a "Mustang" flyer. This scene taken at the North American Aviation plant at Inglewood, Calif., is typical of the efficiency with which planes of this type are crated for shipment overseas. The horizontal stabilizer is being pushed into its cradle in this picture. Note the slim fuselage which is wrapped in heavy paper. Photo, courtesy Aviation News committee. Aeronautical Chamber of Commerce of America.

fiscal year. At this time they mean little. For instance, during the past few days Congress enacted a bill appropriating an entirely new fund of \$1,000,000,000 for building naval shipping. Still another act later provided another new fund of \$450,000,000 for naval shore construction, most of it probably for the West Coast, although the act gives no inkling.

The Allied control board also is looking for permanent quarters here, a whole building, and is expected to be in business as soon as the quarters are found. Space for offices and housing in the capital is a desperate problem. We are literally being crowded out of office and home.

Lignin, by-product of wood pulp, proclaimed 100 per cent priority proof, is regarded as a substitute for materials in radios, in leather, in automobiles, electric light switches, telephones, combs, ink-stands, and even in flavoring matter for cake and candies and ice creams. They think it should interest the Pacific West, and that the lumber industries out there hence might investigate.

PROTECTIVE LIGHTING

Pointers on Factory Illumination Particularly Pertinent to Smaller Units, Many of Which Have Done Nothing in This Direction on Theory that Saboteur is Interested Only in Large Plants of Country

By D. P. CAVERLY
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PROTECTIVE lighting is not necessarily a "war baby." Although industry suddenly has come to recognize it as a critical factor in the maintenance of safety, protective lighting has been used in one form or another to prevent larceny of temporarily stored merchandise and damage by peace-time marauders ever since exterior lighting became a reality. Railroads and steamship lines were among the first to realize that light not only facilitated the handling of goods in yards, docks and other loading areas, but that it likewise prevented accidents and theft. (Fig. 1.)

The subject seems to divide itself into two parts, namely, lighting for large industrial plants where a group of buildings is located within an enclosure, and lighting for smaller, individual factories. A further breakdown finds two general types of protective lighting in use. The first is the lighting of the perimeter of grounds which may be anywhere from a few hundred feet to several miles in length, and second, the illumination of streets, alleys and similar traffic-ways within the plant premises.

At the outset it will be well to point out that regardless of how good a protective lighting system may be, it is practically useless unless there is some one to see intruders. It is true that an individual about to sneak into a plant will think twice about it if he must expose himself to brilliant light, but he usually will know how many guards are on duty, where they are, and what his chances are of being discovered. In other words, the primary purpose of the lighting is to make it possible for guards or watchmen to see the intruder.

When considering methods of installing perimeter lighting, there is no standard regulation, since conditions vary widely. If no buildings are near the property line, it will be necessary to erect poles on which lighting equipment should be mounted. Of course, a stout fence should enclose the property even when buildings are within a few feet of the line, and with buildings thus located, lighting equipment can be mounted on them. (Fig. 2.)

As far as equipment is concerned, there are advantages to each of three types, namely, floodlights, prismatic glass refracting units, and steel reflectors. Floodlights would be used where a long throw

of light (600 to 800 feet) is desired, although such long coverage is not generally recommended because the system might become ineffective on foggy nights. Floodlights may be mounted three or four stories high on the side of a building and directed at open areas some distance away. Three types of lenses are available to control the beam in a wide, narrow or spread pattern as required. When floodlights are used, the control of glare is a critical problem.

The installation must be designed so that the light is not in the eyes of guards, since it would be an easy matter for an intruder to hide in the "blind area" behind a brilliant light source. If grounds are patrolled, the floodlights should, in general, face the way the guards walk, but no glare should result if he has occasion to look back. As a rule, floodlights will be most effective when used to illuminate a large open area which is not patrolled itself, but rather is watched from some point of vantage behind the light.

Prismatic Units

Prismatic glass refracting units provide the most effective illumination for the fence around the plant premises. They are available with an asymmetric distribution which spreads the light lengthwise along the fence with some amount out away from it, so that anyone attempting to scale the fence can be seen easily. Although it is true that a greater spread is accomplished by mounting such units high, the most practical height from a maintenance, glare, and pole installation standpoint, is about 25 feet. At this height, the refractors can be spaced up to 200 feet apart, and with 500 watt lamps or 10,000 lumen 20 amp. street series lamps, the results should be entirely adequate since the resulting illumination will be several times that of full moonlight.

Equipment of this type having symmetrical distribution characteristics is also available and can be used for locations where a circular pattern of light is desired.

Porcelain enamel steel reflectors are quite widely used with gooseneck brackets fastened to the side of buildings or walls, and while they do not provide a critical distribution such as prismatic refractors, they do make relatively high levels of illumination possible in limited areas. Loading platforms, gates, and other areas where traffic is heavy and where more light is needed, may be lighted in this manner.

Open type floodlights of porcelain enamel steel or Alzak aluminum (where priorities permit) are successfully used for employees' parking lots and places where the area is relatively large and open. 150 watt P.A.R. 38 lamps have many applications where the larger equipment is not necessary. They can be placed under the eaves of outlying tool sheds and other

• Fig. 1—Excellent illumination of a loading dock designed to prevent accidents and theft of merchandise; this type also serves as good protection against the lurking saboteur.



small isolated buildings or will provide ample light in dark corners and nooks where the general system of protective lighting does not reach.

It can be seen from the foregoing brief description of the various available types of equipment, that it may be advisable in many instances to use a combination of several, depending upon the conditions encountered. Large industries having grounds covering many acres find adequate patrolling difficult and have established watchtowers at strategic points. These towers usually have a heated enclosure at the top for one or two watchmen and are equipped with a searchlight for sweeping the area commanded. If buildings are high enough, the towers or houses may be located on the roof, but frequently it is necessary to construct a tower 60 feet or more high in order to obtain the proper coverage. This type of protective lighting is used only to supplement the regular perimeter illumination. The searchlight is used only at intervals to sweep the grounds or is turned on whenever an intruder is seen lurking either inside or outside the fence. The towers are equipped with a telephone to the central guard house or to a station nearest the trouble spot, so that when trouble arises, it can be handled at once and without confusion. (Fig. 3.)

Most large plants already have made their protective lighting installations, but there are still hundreds of small ones who have made no plans in this direction, either because they do not believe the expense is justified, because they do not know how to go about it, or because they feel that the saboteur is interested only in the larger industries. As far as the first two points are concerned, a protective lighting system for small plants of one or two buildings is quite inexpensive as com-



• Fig. 3—This illustrates the use of a searchlight to pick up intruders—it supplements a rather high degree of outside plant floodlighting as shown in the foreground. One of the floodlights can be seen mounted in the corner of the building.

pared with other costs in the interest of safety and protection. The lighting engineer of most power companies will provide carefully prepared recommendations for a system of protective lighting based upon the individual characteristics of each plant. From these plans an installation figure can be obtained from the electrical contractor.

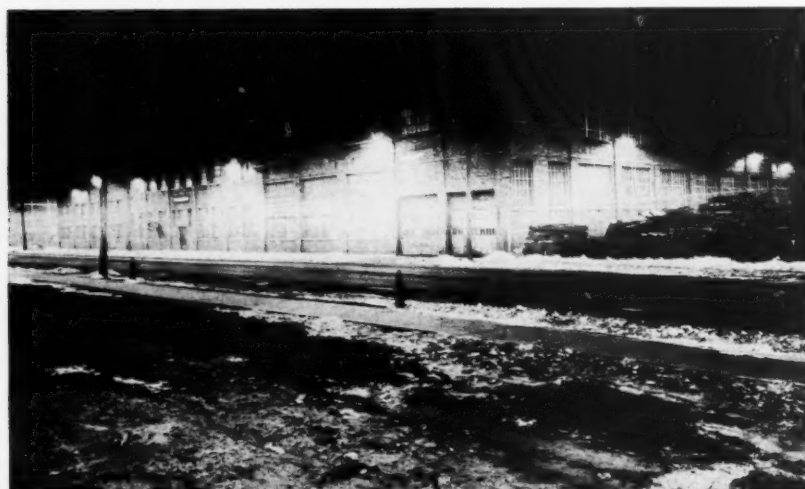
The saboteur is interested in any vulnerable defense plant, regardless of its size. A great many small factories are making small parts which are vital elements in some device of extreme importance to our defense efforts. Even though

these parts may be manufactured in comparatively small quantities by each plant, the total output of several plants represents serious proportions, and adequate protection must be assured for each unit. There must be no weak links.

Protective lighting within the buildings is not such a problem these days because most plants where defense and war materials are being manufactured are operating all night. However, there are some storage rooms and areas of a like nature which usually are not illuminated unless someone is actually in the rooms. These require some amount of light at all times from a protection standpoint. In such cases, a typical "Watchman's Circuit" will usually provide enough light if left burning continuously during the dark hours. Where stock is piled high, or high bins are in evidence, the lighting outlets must be so spaced as to leave no dark aisles and corners in which an intruder might conceal himself. The watchman in making his rounds should be able to see all parts of the room as he walks through, without depending too much upon his flashlight.

There is one other point that should be considered before conclusion. Sabotage is frequently carried out by someone within the ranks of the employees—someone who is deliberately admitted to the plant and has many privileges, once inside. In solving this problem, light also plays an important part. A high level of good quality industrial illumination gives employees a sense of pride in their plant and their work, and under conditions of high morale, the vicious plans of the saboteur are much less likely to thrive.

• Fig. 2—Prismatic glass refracting units mounted on this building adjacent to the property line light up factories as well as the surrounding streets—used for fence lighting.



GUAYULE RUBBER

Shortage Focuses Attention on Possibilities of Increasing the Output Here on West Coast—This Would Take a Year and Probably Much Longer; The Present Growing Process Requires Four-Year Period

POTENTIAL rubber shortage and elimination at least temporarily of supplies from Singapore and the Dutch East Indies have focused attention on possibilities of increased output of guayule (pronounced y-you-lee) rubber in California and Arizona. With every indication that it will be enacted into law, legislation introduced by Senator Sheridan Downey (D., Calif.) authorizes the Secretary of Agriculture to plant 75,000 acres in rubber-bearing guayule plants. These would be planted largely in California. The department of Agriculture is authorized to acquire lands and erect facilities for rubber extraction.

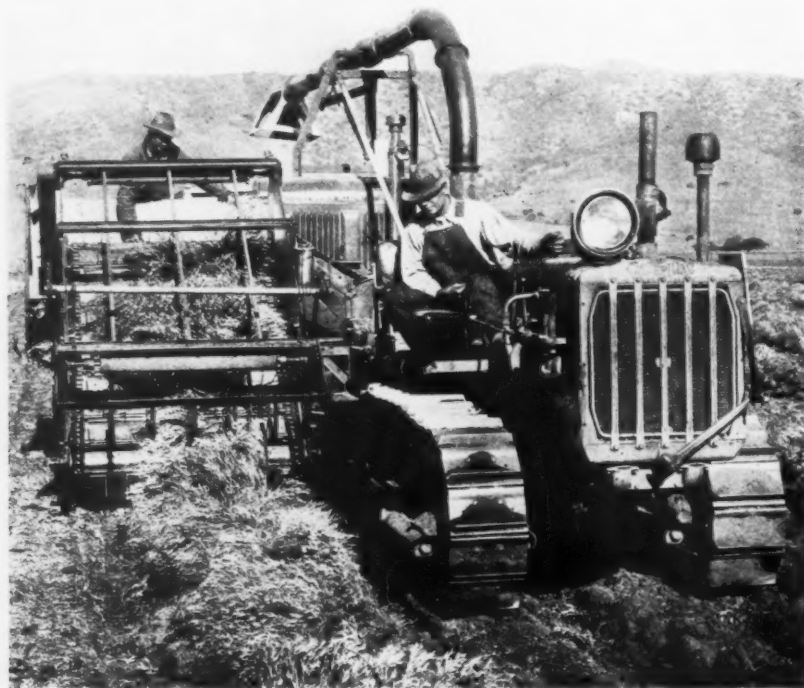
Any idea of substantial immediate alleviation of the present rubber shortage through cultivation of guayule is erroneous. It is something for the future. Primary and only important producer in this country is Inter-Continental Rubber Co. with 900 acres planted in the Salinas valley and indicated top production of 1500 tons annually. In normal times we consume 600,000 tons of rubber, 98 per cent of which comes from the Far East. The rubber content of the guayule plant

which resembles sage brush increases with the age of the plant up to four years. It is then that the plants are harvested by Inter-Continental.

Sponsors of the legislation maintain that this time can be cut. One group of experts advocates sowing guayule seeds thickly, like grain, and allowing them to grow unattended for nine months at which time they say they can be harvested to produce 1,164 pounds of rubber each year. This has not been proved. The present four year cultivation method is to plant in the fields one year old nursery seedlings.

Guayule, a shrubby herb native to northern Mexico and Texas, has been a commercial source of rubber in small quantities for many years. The plant has successfully been grown in practically all parts of California and in parts of Arizona, Texas and Georgia. Some believe that it can be grown in other states. In the modern sense the development is not new. Long before Cortez ravaged Mexico, the natives were producing gaming balls from rubber which they chewed from guayule.

• Harvesting the guayule plant at the Salinas farm of the Inter-Continental Rubber Co.; after harvesting, the dried plants from the field are hauled by truck to a chopping mill and later crushed by steel rolls and reduced to fine particles.



Scientist Dr. W. B. McCallum of the Inter-Continental Rubber Co. has estimated that there are one million acres of lands in California and Arizona suitable for the cultivation of guayule. The plant requires very little water and the root tends to rot in a heavy soil which holds water. Light frosts do not injure the plant but heavy frosts prevent full development.

U. S. Department of Commerce based on experiences at Salinas, Calif., asserts that total cost of growing, harvesting and extraction under present conditions is between 20 and 25 cents per pound, considerably higher than average prices for tree grown rubber, the present price of which is 22½ cents. Commercial exploitation of guayule financed by private capital seems hardly likely under present methods and conditions. There is a ceiling for rubber prices at present levels.

Mexican Output

Mexican production of guayule which grows wild there is estimated at around 4,000 tons annually. Tree grown rubber in Latin America in 1940 produced only 17,600 tons of crude. This possibly could be doubled.

And so unless we can keep our line open to the East Indies, we must look to the production of synthetic rubber as the answer in the event of a prolonged war. Federal Loan administrator Jesse Jones last month announced that he had invited oil, rubber and chemical units to pool efforts on a 400 million dollar program to produce 400,000 tons of synthetic rubber annually. Our stock pile now accumulated is placed at 600,000 tons.

Steel Conference

The 18th Pacific coast annual conference of the Iron, Steel and Allied Industries sponsored by the California State Chamber of Commerce will be held at the Hotel Del Monte, February 12, 13 and 14, at Del Monte, Calif. C. B. Tibbetts, vice president Los Angeles Steel Casting Co., is conference chairman and C. S. Knight of the state chamber is secretary.

Opening day discussions, February 12, will be devoted to the steel industry's part in the emergency, war demands and the industry's emergency adjustments. Mr. Tibbetts will discuss the industry's part in the war.

Friday's session, February 13, will be devoted to committee reports and Capt. Howard L. Vickery, U. S. Navy, will discuss steel requirements for merchant ship construction. Castings in Industry will be discussed in a talk by H. S. Simpson, president National Engineering Co. and president American Foundrymen's Association of Chicago. Col. Wayne Allen, new consultant at Washington on city, county and state purchases, will discuss priorities and allocations.

PLANT SAFETY

Three Subjects, Housekeeping, Illumination, Proper Maintenance Provide a Gauge of Good Management; Fundamentals of Good Lighting Discussed; Eye Fatigue Cause of Many Factory Accidents

THE three subjects, housekeeping, illumination, and proper maintenance directly provide a gauge of good management and good plant operation without which we cannot have an effective safety program. Poor housekeeping, poor lighting and poor maintenance reflect a type of management that deserves and always gets high accident frequencies.

The fundamentals of good plant housekeeping were discussed at length in a previous article. Some of these fundamentals summarized will bear repetition. We will also discuss here illumination in connection with good plant housekeeping. We have already established a premise that if you want to create a state of safety-mindedness and if you want workers to have a sincere safety spirit, you have to provide a clean, orderly, well-guarded, healthy, and well-lighted working place.

This is the third of a series of articles prepared in collaboration with leading plant safety engineers on the Pacific coast on the needs of and methods for attaining industrial plant personnel safety. They are directed to management of the smaller plants whose operations have expanded rapidly under the necessity of turning out war goods. The fourth article being prepared by R. P. Blake, U. S. department of Labor, division of Labor Standards, will appear in the March issue of Western Industry.

In laying out a model plant, we must provide spacious aisles, machinery guards, adequate places for tools, equipment, machinery, etc. All this calls for an orderly procedure but we can't have an orderly procedure without everything being kept clean and in order. Waste must be collected at its source.

Housekeeping and orderly arrangement are used as one of the principal items in appraising safety performance. If housekeeping is neglected, the safety performance is cut 25 per cent, safety engineers assert. Dirty places indicate a lack of an organized plan for operations, lack of standards and lack of outlined procedure. Dirty bosses can't be leaders. Why do we dress up our Army and Navy officers?

Good plant housekeeping—meaning cleanliness and order—is the first factor in your plant to prevent interruption to an expected, orderly procedure.

Loose objects on floors, platforms, and steps are tripping and stepping-on haz-

ards. Loose articles overhead are falling objects hazards. Projecting, or poorly placed materials cause bumping into and falling objects hazards. Greasy, wet and dirty floors are slipping hazards.

Dirty windows and light bulbs are indirectly responsible for many hazards.

Poor housekeeping is responsible for many fires.

Poor housekeeping breeds contempt of the management. It breeds carelessness in acts, in care of tools, machines and properties. You cannot develop morale or loyalty with disorder and confusion.

You can't have discipline where you do not have a willingness to do things according to a planned procedure.

A dirty or slovenly dressed worker is a careless, non-respectful worker. He has no pride and but little self-respect. Give him a clean working place and require it to be kept clean and 90 per cent of our American workers will clean up themselves. Dress up a group of longshoremen in white clothes and white gloves in order to handle clean sacks of flour and you seldom have an accident.

Management Problem

In the final analysis, it is the bosses who permit bad housekeeping, who have no planned procedure and many times blame all interruptions on carelessness of the injured worker.

Proper plant lighting ties in directly with good housekeeping and maintenance. Look at a poorly lighted plant, a poorly lighted working place or a poorly lighted office, and we can appraise the safety performance of that operation as at least 25 per cent worse than normal. You can't have normal accident frequencies with poor light, and you can expect normal accident frequencies with good light if other requirements for developing safety-mindedness are met.

We mean by good light: First, proper intensity; second, proper quantity; third, no shadows; and fourth, no glare. Modern lighting schedules and standards have been developed by illumination engineers, and to such a point that there is absolutely no excuse for poor illumination in the plant, on the machine, and on the desk. We have passed from the candle to the kerosene lantern, to the acetylene and gas mantles, to the flickering gas flame; to the electric bulb with a carbon filament, to carbon arcs, and now to the modern hydrogen lamps. Now we are in a fluorescent gas-filled tube age.

With the facilities made available for standard approved lighting and approved reflectors, we should be penalized for requiring work in poor light, in glare and shadows. In fact, we are penalized through accident frequencies and inefficiencies. By all means, get acquainted with the properties of the modern fluorescent installation, because through this development we are deriving great benefits from higher intensities, better diffusion, and at a low cost.

The combination of faulty vision and eye-strain plus the strain of faulty illumination is directly responsible for many unsafe acts. Eye-strain is a luxury tax, paid by the nervous system through the eye in the interest of obtaining a clear and single vision of the object. In other words, you pay for the good light whether or not it is installed. If good lighting is installed, you get back your cost a hundredfold.

Fatigue Is Dangerous

Strains are not necessarily defects of vision, according to optometrists, because most persons under 45 who pass eye tests do pass most seeing tests, and still suffer from effect of eye strain. It is here, then, that fatigue plays an important part in unsafe acts of workmen. Fatigue is, however, one of those hidden factors in human failures resulting in serious injuries. Near the top of the list of fatigue causes is the hidden liability of eye strain. It is slow in action, but is cumulative and fatal. Poor light and improper lights contribute to eye strain, to fatigue, to unsafe acts, to inattention, to insubordination, and to general inability to perform in accordance with a safety-mindedness routine.

But not only does improper lighting cause eye-strain, fatigue and carelessness, it also causes defects, covers up dirt, covers lack of guards, covers up points of operation, covers up holes in floors, makes false shadows, and makes fine homes for rats, germs and other unwanted pests. The enemies of security all work in the dark.

Many Plants at Fault

There are literally hundreds of thousands of violations of the fundamentals of good illumination in our defense shops, offices, warehouses and yards. Probably less than 25 per cent are equipped with proper reflectors, thereby exposing eyes to glare with the result that ability to see is greatly reduced. Proper reflectors concentrate light at the point where perfect vision is necessary. Improper reflectors, or none, waste from 40 per cent to 85 per cent of the light, and not only that, but if a worker happens to look into a bare light, blind spots are caused in the eyes.

A few elementaries of the principles of lighting are not amiss here. Light intensity is expressed in foot-candles. One-foot candle is the intensity of illumination

produced at a point on a surface one foot distant from the source of light of one candle power, the surface being at right angles to the light ray. Quantity of light for a given area is spoken of as "lumens." A lumen is the quantity of light or luminous flux received upon a unit surface (square centimeter), all points of which are at a unit distance (one centimeter) from a concentrated source of a spherical candle intensity.

Outside on a clear day in summer, the light is equal to 10,000 foot candles. On an overcast day, this intensity may drop to 1,000-foot candles. On the summer days that you spend on the covered front porch, you still enjoy the light of 500 of these foot-candles.

Now, let's see what happens when we

move indoors. First, when we sit by the window in the daytime, the light may vary from 100-foot candles up to several hundred, depending on the weather that day. But now night comes, and we turn on the lights. Suppose we first turn on a bridge lamp with 60-watt bulb. About a foot from the lamp, we find we have 80 foot-candles. Three feet away, the light is about nine foot-candles; and if you are reading five feet away from the lamp, you are getting only the equivalent of three candles stuck in bottle tops.

Brightness is another important factor. This is particularly true with artificial lighting because the level of brightness is generally less than a thousandth of that outdoors during most of the day. Just because you are getting enough light from

a 100 watt lamp when you read does not mean that your eyes do not pay any attention to the level of illumination elsewhere in the room. They do. If your surroundings are dark, considerable decrease in seeing arises.

The Illuminating Engineering Society provides recommended standards used by illumination engineers. Some of these minimum standards are:

	Foot Candles
Aisles, stairways, passageways.....	5
Medium bench work.....	20
Paint shops, ordinary handwork..	20
Brick plants.....	5 to 15
Machine shops.....	10 to 20
Desk work.....	20

There are other seeing tasks which require greater intensities. These are here grouped as follows: A—Includes those tasks requiring extra fine detail with poor contrast and long periods of time. For these tasks, an overhead lighting of 20 foot-candles is described plus supplemental light of two 100 foot-candles. B—Includes those tasks that require fine detail but where there is fine contrast and a long period of exposure. Here we have prescribed 50 to 100 foot-candles. C—Includes those tasks that require moderate detail, better-than-average contrast, and intermittent periods of seeing. Here, 30 to 50 foot-candles are prescribed for the general system but it is found to be more economical if there is an overhead lighting of from ten to twenty foot-candles, and supplemental lights furnished for the direct task.

Examples of "A" are extra fine bench and machine work, stitching, trimming, inspection of dark goods, extra fine inspection and assembly.

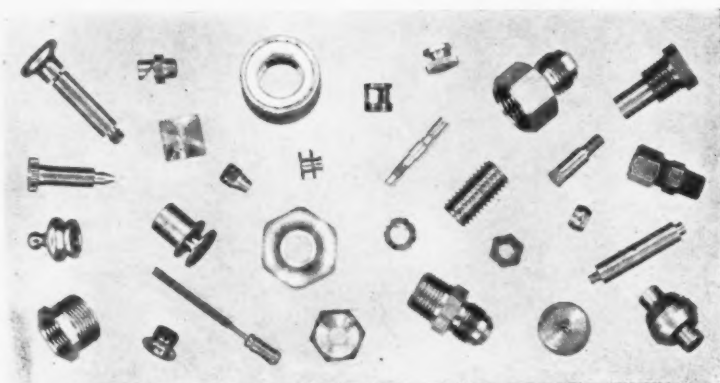
Examples of "B" are bookkeeping, buffing, polishing, repair jobs, fine assembly and inspection.

Examples of "C" are automobile and other repair operations, desk work, and prolonged close work.

It must become apparent by now that in order to get proper intensities, we must give consideration to lamp wattage (quantity), height, spacing of lamps, proper reflectors and proper maintenance of reflectors and lamps. In the final analysis, this is a job of the illumination engineer, and if you have a lighting problem, you should call in an engineer to solve your problem.

Summarizing: 1—Our ability to see is dependent upon at least five primary variables—size of object, contrast, brightness, and time of exposure; 2—Regardless of source, whether it be daylight or artificial light, light obeys the same natural laws; 3—Lighting plus vision equals seeing; 4—Good light helps the vision; 5—The new so-called "cold light" or fluorescent may solve many of your lighting problems.

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LOS ANGELES, CALIF.

DECENTRALIZATION

Denver, Colo., Benefits from Gov't Policy of Freezing Industry on Pacific Coast to Present Facilities and Allocating New War Plants Away from Seacoast; Many Other Inland Communities Booming

By WILBUR WAMSLEY

THIS peculiarly located state of Colorado—astride the Continental Divide—with a large part of its area protected by the forbidding, rugged ranges of the Rocky Mountains, finds itself in the fortunate position of the man who fell in the river and came out with his pockets full of fish.

Without danger from physical attack by an enemy and with many desirable areas for factories and plants, fed by tremendous resources of coal, cheap water power, mineral deposits, agricultural and forest products, it appears destined to become one of the most important cogs in the vast decentralized war machine America now is engaged in building. Fortunately, most of the resources which make Colorado and its sister states a logical supply depot of the arsenal of Democracy have been here for a long while. They were provided by nature. The areas just east of the Great Divide have enjoyed extensive development in the last few decades because many and varied natural resources are found here in abundant measure—an equable high and dry climate, mineral deposits of tremendous unexplored possibilities, ample labor supplies, cheap power, agricultural wealth and splendid transportation facilities.

War in the Pacific, however, with its persistent possibility of sea-launched enemy raids has driven home to government and industrial leaders alike the wisdom of decentralized industry and the utilization of plant capacities hundreds of miles remote either from the Pacific or the Atlantic. That is where Colorado and its adjacent states fit into the picture. Sharply stepped-up activity has made restrained boom towns of Denver, Colorado Springs and Pueblo in Colorado, of Salt Lake City and Provo in Utah, of Albuquerque in New Mexico. Wheels are humming as never before. Smoke pours from factory chimneys long idle. Payrolls are tremendous and being expanded weekly. The gods of war are being fed heavy and light materials, as well as man-power, from these areas. The end is not in sight.

Colorado's defense orders, according to the Manufacturers' Association of Denver, totaled \$156,475,000 at the end of the year. Since that time they have stepped up to \$170,000,000, including appropriations for plant construction. The figures appear puny beside the tremendous orders booked by the plane manufacturers and other industries on the Pacific Coast, but

the total is growing by leaps and bounds, almost daily, too. Here are a few examples: The Navy Department has just distributed here \$56,000,000 in ship steel fabrication orders, in a sort of milling in transit arrangement. The new steel, manufactured in Pittsburg, Calif., is shipped to Denver. Here it is worked into ship plates, sections and parts. Then it goes on to the ship yards in San Francisco to be fitted, piece by piece, into carriers of commerce.

War in the Pacific which has virtually put many coast cities in the front lines, has crystallized government policy with respect to decentralization of industry. This has worked to the advantage of inland communities of the west such as Salt Lake, Provo, Denver, Spokane and many others. Early part of this plan was revealed nearly two years ago when new huge aircraft plants were ordered for Tulsa, Dallas and Fort Worth. More recently, sudden switch in OPM plans ordered a \$125,000,000 steel expansion program for Provo, Utah instead of Pittsburg, Calif. A \$70,000,000 magnesium plant is going up in Las Vegas, Nev. Huge arms plants are nearing completion in Denver and Salt Lake City. Now reported is a plan to remove to a point 400 miles inland, the projected \$20,000,000 aluminum rolling mills which had been contemplated for Fairview, Oregon.

A few years ago the Colorado Fuel & Iron Co. at Pueblo was one of the sorriest of the Rockefeller possessions. It was an orphaned sister, located awkwardly between two coasts. Because of the Rockefeller influence, it got some orders for steel rails, but even these orders did not keep it out of the hands of the sheriff. Finally, it crept quietly into bed with 77B and nursed its depression-brought miseries. But war, the ill-wind that proverbially blows somebody good, came along. The mills are now engaged in making large shells for the United States and other armies; are operating three shifts each day, seven days a week and making money. The last valuation placed on the plant was \$48,000,000. It couldn't be bought from the Rockefeller interests today for double that figure.

Still another example: A large plant here engaged in the manufacture of overalls. It built up a good reputation for an excellent product and distributed it nationally through intensive advertising in farm journals. Came the war. The product is now fatigue uniform for soldiers, manufactured on a three-shift mass production schedule, virtually by the trainload.

A far-sighted aircraft board in the war department some years ago decided it would be a good idea to train its aviators in high altitude flying. Lowry Field was established on a modest scale and now on a vast and increasing program with units which comprise not only Lowry Field, but Fort Logan and Fitzsimmons Hospital, where a new \$4,000,000 building had just been completed, an addition to the already existing hospital facilities. In these three units Grade A flyers are being turned out,

• New \$45,000,000 small arms plant being constructed at Denver, built and owned by United States Government and which will be operated by Remington Arms Co.



photographers and cartographers go to school for finishing courses and armorers, mechanics and sharpshooters get their army degrees. A new development is a complete cantonment for 30,000 soldiers for which ground is now being broken at Colorado Springs.

The old-timers hereabouts boast that there is more precious metal in the Rocky Mountains than ever has been taken out. Gold and silver and all their by-products. They recall vividly the glories of Cripple Creek and Leadville, of Boulder, San Juan and Central City, and of the roaring robust, two-fisted days of Haw Tabor, Dave Moffat, Johnnie Campion and the Walshes, who made the world resound with their rich strikes of gold and silver and who spent it as fast as they made it. In most cases, faster.

But they mined with crude, obsolete machinery. They sought—and found—only the high-grade stuff and let the low-grade go. Even so, Colorado has produced more than \$800,000,000 in gold since the first grizzled miner turned up a yellow nugget with his pick and dashed whooping off to town to spend it and spread the glad tidings.

Base Metals Sought

It is not gold or silver that now is the object of intensive search in the Rockies. It is the baser metals, wanted badly for national defense—lead, zinc, copper, vanadium, molybdenum, tungsten, and lunite. The premiums just placed by the Metals Reserve Company, a subsidiary of the Reconstruction Finance Corp., on the excess production of various minerals is expected to increase mining activities in this area by at least 30 per cent. This amounts to 3.40 cents per pound for lead, 2.75 cents per pound for zinc and 5.00 cents per pound for copper over the previous rate of production. This brings lead prices up to 9.25 cents, zinc to 8.25 and copper to 17.00. These prices will send many prospectors and companies to the hills on a still hunt for new fields.

"This means the revival of the mining industry throughout the entire Rocky Mountain area," said Robert S. Palmer, secretary of the Colorado Mining Association. "It will bring to the surface a vast amount of low-grade metal that could not be mined profitably under the old scale of prices, and the very metals, too, that the government is most in need of for its war efforts."

Colorado boasts the Cinderella of the mining world. Perched squarely on top of the Continental Divide on Fremont Pass is located a veritable mountain of molybdenum, owned by Climax Molybdenum Company. The property was kicked around and mined in a half-hearted fashion by various owners until it was finally acquired by Max Schott of New York and

his associates. It was discovered that molybdenum, known to the trade as "moly," is an important alloy in hardening iron and steel, in ceramics and as a catalyzer in cracking high test aviation gasoline.

So now the vast mining camp, with latest improved mining machinery, is hauling out 2,500 tons per day of the gray-black ore, approximately 99 per cent of the molybdenum used in the war effort, supports a staff of 1,000 men who live in a cold little village of their own squarely on top of the Divide, and who work on a three-shift basis.

But it is not alone on the basis of metals or manufacturers or even the army camps that this productive area just over the Continental Divide makes its bid for a place in the sun of industrial progress—even though war born. Here too are pleasant plains where fine cattle graze on lush pastures watered by mountain snows; where the hog and sheep and kindred livestock populations have been stepped up remarkably since the outbreak of war; where agricultural products of a thousand varieties come to luxurious fruition. Colorado's farm products in 1941 were officially valued at \$108,372,260, of which \$22,682,000 was in wheat, \$10,819,000 in corn, \$13,742,000 in hay and \$10,435,000 in sugar beets. These figures will be increased by at least 10 per cent—possibly 20 per cent—in 1942, under the stimulation of higher agricultural prices and the goad of the United States Department of Agriculture now behind all farmers everywhere to produce to the limit of agricultural capacity as an important factor in war-winning.

Power Plants Needed

In the watershed that extends from Wyoming, through Colorado and on to New Mexico, the Bureau of Reclamation is engaged in a vast enterprise of building plants for generation of electricity by utilizing the falling water of irrigation projects. The eight plans generate 94,600 kilowatt hours. The most extensive governmental project is the Grand Lake-Big Thompson plant at Kremmling, Colo. It now generates 21,600 kilowatt hours and with its six hydro-electric plants on the eastern slope of the Rockies will eventually develop 136,500 kilowatt hours. Development on these government-planned and operated projects are under way at Cody, Pavilion, Parco and Lingle, Wyoming, through Colorado and on to Palisades and Kremmling, Colorado.

So all this fertile, fabulous region, named for Zeb Pike, that lies just beyond the Rockies, is coming into its own with a rapidity that is astonishing, gearing itself quickly to the war effort. It is a territory that has lived through gold and silver booms, an oil boom and a real estate boom and watched placidly as each

folded up in turn. Its banks are full of money—the last statements showing the highest deposits on record—its Chambers of Commerce are glowing with the unexpected but not unwelcome plums being dropped into its lap and it is anxiously scanning both coasts for manufacturers looking for a spot for new plants that are safe from gun fire, blackouts and all the other harassing incidents of the all too near-by enemy.

But this Pikes Peak area does not bid for its place in the industrial sun with its hat in its hand. By no means. "We welcome industries that will be permanent and that will become a part of the industrial life of the area," says the president of the Colorado State Chamber of Commerce. "We want no temporary ones, seeking our natural safety but who plan to leave when the war clouds have blown away."

Uncle Sam has located 145 government offices and agencies in Denver, and among them they govern a territory that extends almost as far north as do the American Rockies and even beyond their southern extremity, down into the sun country of New Mexico and Arizona.

"This area is the little Washington of the nation," says Governor Ralph L. Carr of Colorado.

So finally, the Rocky Mountain range has become good for something besides grandiose scenery, mining, a good place for grazing sheep and cattle and grand spaces to climb up in summer and ski down in winter. It forms a natural barrier against warfare as waged against us by the barbarians in this year 1942. That warfare, within a comparatively short space of time, has transformed the area from self-satisfied communities appealing to the low-priced tourist trade, into humming arsenals, producing materials and training men that will aid in winning the war.

Extension Courses

Stanford University is offering a series of free courses to be given in San Francisco to make available to structural engineers and architects information regarding structural design for civilian air raid protection. Specific subjects covered are design of air raid shelters and protection of buildings. James Bertrand Wells, professor of civil engineering, and others will conduct the classes.

Enrollment is restricted to registered civil engineers or architects of California or holders of a degree in civil engineering or architecture. Classes which started in mid-January are held Monday evenings, seven to nine o'clock, in the Russ Building, San Francisco. No charges are made to the student as the cost of training is provided from federal appropriations.

TRAINING

U. S. Labor Department Is Now Engaged in Huge Task Training 100,000 Plant Executives Free

THIS country is now well on its way with the herculean task of training 100,000 supervisors and executives of plants engaged in defense work on the need and aspects of industrial plant personnel safety. This also applies to small and medium sized plants working on sub-contracts. While the plan was launched last year, knowledge of this important move is limited probably owing to poor publicity.

Now the plan is functioning smoothly with free night courses offered in practically all major industrial centers by universities and colleges having accredited engineering schools approved by the U. S. Bureau of Education.

First move in the plan for mass education of plant executives and supervisors was the meeting in Washington last year when 20 widely known industrial safety promotion experts, representatives of labor, state and federal officials, organized the plan as a defense measure. In essence, the plan brings to industries operating on government contracts, particularly smaller industrial units, the expertness and efficiency exercised by the larger and better managed industries.

In execution, the plan is supervised by a 24-man committee, the National committee for the Conservation of Man Power in Defense Industries. In addition, eight members of this committee function as regional chairmen, with a regional committee, sub-committee chairmen in various cities and field agents, all donating their expert services to the government free and without cost to plant management or employees.

State chairman for region number eight comprising the eleven western states is R. E. Donovan, chief safety engineer for Standard Oil Co. of Calif. at San Francisco assisted by Byron O. Pickard, director Accident Prevention Bureau, Waterfront Employers Association of the Pacific Coast.

In California, free night classes are now offered by the University of California, Stanford University and University of Santa Clara. University of California is making available free courses restricted to executives and superintendents of plants doing defense work, at Berkeley, Vallejo, Pittsburg, Oakland, San Francisco, and Los Angeles. A complete list of courses can be obtained by application to the chairmen of the various committee heads listed here. Defense contract training de-

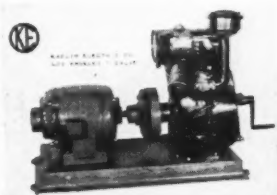
partments of the universities also will supply information.

Other aspects of the overall plan are: the U. S. department of Labor division of Labor Standards acts as the clearing house for all activities of the plan. Policing powers lie with the Public Contracts division which administers the Walsh-Healey labor act.

Upon the awarding of government contract, the plant manager is notified of his general responsibilities to safeguard employees in respect to work hazards and of the availability of specialists from industry in his own district, to give technical advice. The regional representatives of the national committee are given the name and location of the contractor and imme-

diately assign a district or local committee member.

Sub-committee chairmen available in the larger western cities are: Washington state—J. R. West, district safety engineer, Waterfront Employers of Washington; Oregon—Otto R. Hartwig, Crown-Zellerbach Corp., Portland; Colorado-Utah-Wyoming—Albert A. Kling, safety director, Public Service Co. of Colorado, Denver; and Idaho—E. E. Beck, safety director, Idaho Power Co., Boise. The job of these sub-chairmen is to act as coordinator for special and field agents, make contacts in their territory, check plant conditions and furnish free a safety consulting service. Theirs is not a policing job but simply to act as an advisory service.



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Los Angeles

A FAST-GROWING INDUSTRY

California Wine Industry Comes Into Its Own—Curtailement of Europe's Supplies Is Now a Favorable Factor—1938 Production Doubled by 1940 and Showed an Increase of 19 Per Cent Last Year

AMERICA'S wine land in California is more than 600 miles long. It begins almost at the border of Mexico and runs northward through three or four shades of climate to a point more than 100 miles above San Francisco. It follows two routes—the long, flat, warm San Joaquin and Sacramento valleys, and the hilly, sunny, but moist north coast.

Within its borders are the highest and lowest (and hottest) points in the U.S. Its southern latitude approximates a line through Algeria and Persia, its northern latitude through Vladivostok, southern France, and Italy. Parts of the grape-growing areas resemble Italy, or France, or Germany. Likewise, portions of California have soils identical with the Old World's famed wine lands. The Livermore Valley, for example, is more than a perfect reproduction of the sauterne district of France—and its prize-winning wines are white table wines of the California sauterne types.

It is the growing conditions of California, from north to south, through valleys and down the coastline, that are the

envy of every European grower who ever has stood on the rolling hills of Napa County, the broad expanse of Fresno County, or the slopes of San Bernardino, and watched the yearly vintage—the picking of the grapes. For the slogan of America's wine land is "Every Year a Vintage Year," and it can be said without tongue in cheek. California's climate varies so little from one year to another that the "vintage years" of Europe are unknown here.

Father Junipero Serra, enshrined in history as the brave and kindly leader who established California's chain of missions from San Diego to Sonoma, selected San Diego as the spot for his first, and southernmost, mission. It was there, in 1769, that he planted the grapevines that were to mark the actual beginnings of the grape and wine industry from which approximately 130,000 California families now derive income. The vines he planted had been brought from Baja (lower) California, descendants of the vines of Spain. As the vines flourished in the fertile soil of Alta (upper) California, cuttings were

taken to new missions up the coast, and to the Spanish ranchos.

The second vineyard of importance was at Mission San Gabriel near Los Angeles, and there today can be seen the Trinity Vine, oldest living grape vine in California.

By the time Father Serra had reached the end of life's trail, there were an estimated two million vines around the missions and in the gardens of the settlers. The mission system began to decay in the 1800's, and grape growing passed entirely into the hands of agriculturists.

The Pueblo of Los Angeles turned to wine making as a major industry, and by 1850 Los Angeles' income came mainly from two sources—cattle and grapes. By 1860, Southern California wine growers had established offices in New York, and shortly thereafter California wine was made available to the world. In that same year wineries represented the second largest capital investment in Los Angeles—just below flour mills.

Industry Here Aided Europe

But the wine industry of the present, the industry built with northern European vines, really began in Northern California, and here its first chapter is entitled "The Gold Rush." For the lure of yellow metal brought European vineyardists as well as butchers, bakers, and candlestick makers to California. When the gold fever subsided these immigrants turned to the rich soil and mild climate of California to grow their riches.

They found a patron in Colonel Agoston Haraszthy, a Hungarian nobleman who fled the revolution of 1848, bringing his liberal philosophies to the Golden West. Colonel Haraszthy and the other grape growers of the state imported many European varieties of grapes from France, Germany, and Italy. In 1861 the Governor of California sent Colonel Haraszthy to Europe to buy selected varieties of grape vines to be planted in California. He spent \$12,000, buying 100,000 cuttings of 1400 varieties. But when the colonel arrived home, the California Legislature refused to accept the vines or to pay the bill.

After a year Colonel Haraszthy offered the vines for sale, and there was a "grape rush" by grape growers and vintners to the colonel's vineyard at Sonoma to obtain the precious vines. They were scattered all over the state, identification tags became lost, and much of the immediate value of Haraszthy's efforts was dissipated. But the fact remained that 100,000 fine foreign vines were planted in California's soil, and those vines made possible the California wine industry on its present commercial scale.

While California must thank Europe for its vines, Europe in turn owes to

• These caves at a California winery provide the coolness for aging wine to proper maturity and under conditions which it is declared are equal to those offered by European wine centers.



America the existence of its vineyards today. For in the late '50s and early '60s the deadly phylloxera vastatrix, an insect which destroys the roots of grape vines, attacked the European vineyards. The only way to combat the phylloxera is to introduce resistant stocks into the vineyards—and native American vines are resistant. In other words, the delicate wine-grape vine must be grafted on a sturdy American root. So the vineyards of France were re-established with American root stocks.

As the 19th Century ended and the 20th Century rolled in, California's grape and wine industry grew in size, scope, economic importance—and in quality of product. Americans were being won over to California wines in preference to the fancy-labeled foreign imports, and wine consumption in the United States had reached considerable proportions when prohibition apparently smashed the industry.

But prohibition was not entirely a death blow. There remained a market for medicinal and sacramental wines, and nearly 100 wine makers were able to keep their establishments going through these trying times. Vineyards were improved, cellars kept in repair. As it became more and more evident that the American people were fed up with the graft and corruption and gangsterism of prohibition, the vintners—those same men whose lives for generations back had been devoted to grape growing and wine making—made ready.

Thus California's wine industry is not a post-repeal infant, but a hale and hearty veteran. And thus it is that California, so soon after repeal, is able to produce wines which have been hailed by the connoisseurs of the world for their quality, and

wines which the average American family can afford to serve on the dinner table every night.

In California, the art of wine making is carried on, basically, as it has been since civilization began and man first learned to make use of Nature's gift. Wine is GROWN, not MADE, and the wine maker does nothing to the pure juice of the grape except to make things easy for Mother Nature, and to see that she produces the best possible product.

That does not mean that wine making, like everything else, is not constantly being improved. The mechanical age has given the vintner fast, efficient machines which remove the stems from the grapes before they go into the crusher. It has given him presses that enable him to crush the fresh grapes immediately after they have been picked, before they have lost any of their natural goodness.

Soil Chemistry Aids

The soil chemist has given him better grapes with which to work, and men of science watch his wine to assure the consumer a hygienic, uniform, and completely sanitary product. The State of California has set up quality standards which are higher, even, than the standards of the Federal government, and are in many respects the highest in the world.

In 1938 the California wine industry was in a dangerous position. Its post-repeal expansion had made it bigger than its market. However, the wine men decided not to plow themselves under. They decided that the problem was not *over-production* but *under-consumption*, and that the solution was market expansion.

Taking advantage of the California Marketing Act, wine producers representing nearly 90 per cent of the industry's

volume gave assent to a Marketing Order for Wine, whereby the whole industry would be assessed on a gallonage basis, and the money, to be administered by a Wine Advisory Board, would be spent solely on advertising and promotion of California wine, without mention of brands. The money thus raised and spent during the first three-year period was about two and a half million dollars.

The success of the program is attested by the fact that it recently has been renewed for another three years by the vote of an even larger majority of the industry. Because of increased production due to increased consumption resulting from the advertising and promotion, the money to be spent during the coming three-year period will be about three and one-half million dollars.

The greater proportion of the money will be spent, as it was during the first three-year period, on national advertising.

A few figures will show how the program has progressed toward its goal of making America wine-conscious and wine-desirous, and what an important agricultural industry the California wine industry now is.

Output Doubled

In 1938, the year the program was born, the production of California wine was 50,342,000 gallons. In 1940 increased demand had brought production up to 100,818,000 gallons. The approximate value of the 1938 production was \$30,630,000. In 1940 the approximate value was \$60,000,000. The gallonage was up 19 per cent in 1941.

The vineyards of California comprise more than half a million acres of land, and there are 451 wineries in the state.

It has been estimated that the present investment value of the California grape and wine industry is \$435,000,000.

In value of a cultivated crop the California grape and wine industry is the second largest agricultural industry in the state, and is rapidly approaching first place, now held by the citrus fruit industry.

N. W. Fuel Oil

Noted last month were definite signs of relief for the Pacific northwest oil situation which with the appearance of Japanese submarine raiders along the coast for a time threatened to create a shortage. Last month supplies of fuel oil were distributed among northwest utility units to keep gas and electric plants running. Fuel oil and gasoline for the northwest go north from San Francisco and Los Angeles by tanker. The tanker situation has eased somewhat with the indication that the raiders had been cleared out temporarily. More tankers have been made available which it is indicated are going to northern ports under convoy.

• Huge fermenting vats in a California winery; here the grapes undergo one of the first natural processes which convert them into fine wines for the dinner table equal to those of Europe.



WESTERNERS AT WORK



EMIL G. SICK
Seattle's Top Baseball Fan

THE first move Seattle's businessmen made at the start of 1941 as they plunged into the biggest job they ever faced—production for national defense—was to elect Emil G. Sick president of the Seattle Chamber of Commerce.

This was typical. For wherever there is a big community job to do in Seattle, Emil G. Sick invariably takes an important role.

With a job well done, Sick retired as chamber president in mid-January, retaining however his active interest in community affairs. He was succeeded by D. K. MacDonald, prominent Seattle businessman who will be president for the coming year.

MacDonald as chairman of the national defense committee of the Seattle chamber has directed the organization's activities in that field for more than a year and a half. Under his leadership that committee has played an important part in attracting nearly one and a half billion dollars of defense contracts to the Puget Sound area and Alaska. Recently he was named chairman of the industries and natural resources division of the Seattle Municipal Defense commission.

Sick as president of the Seattle Brewing & Malting Co. and several Canadian breweries, has long been one of the Pacific coast's outstanding businessmen. But he sprang into great public prominence in 1938 when he purchased the physically and financially weakened Seattle baseball club and led it to three Pacific Coast League championships in four years.

He regarded his ownership of the Seattle baseball club as a real civic responsibility. To him it was as important that he make it the best baseball team on the Pacific coast for the pleasure of the community as it was that it succeed financially.

Emil Sick has been a leader in business and community affairs because he is a man of direct action. To him every job worth undertaking is deserving of all the effort he can exert to make it a success.

MacDonald has been a leader in the business life of Seattle for a great many years, and since 1926 has been a foremost figure in civic affairs. He is president of Carter MacDonald & Co., insurance brokerage and property management firm. Since 1926 he has been president of the Seattle Rotary Club, president of the King County Hospital System and president of the Washington Athletic Club.

The guiding philosophy of D. K. MacDonald can be expressed easily. It is "Do it now." When there is a community job to do, D. K. MacDonald shies from the meetings, the speeches, and the discussions. He goes right to the core of the matter, does the job, and clears the decks for another task.

That is why he was selected unanimously as the man to be the war-time president of the Seattle Chamber of Commerce.



CHARLES E. CAREY
Takes Central Valley Job

FROM Portland last month came word that Charles E. Carey, chief consulting engineer for the Bonneville power administration, had been appointed senior engineer at Sacramento for the U. S. Bureau of Reclamation. Mr. Carey took up his new duties at Sacramento early in January.

The appointment as senior engineer hardly tells the real story of Carey's new job. As chief consulting engineer for the government bureau at Portland, he established an enviable reputation for the uncanny accuracy of his power consumption forecasts. His job at Sacramento will be

to supervise arrangements for the marketing of power from the huge 450,000-kilowatt hydro development of the Central valley reclamation project in California.

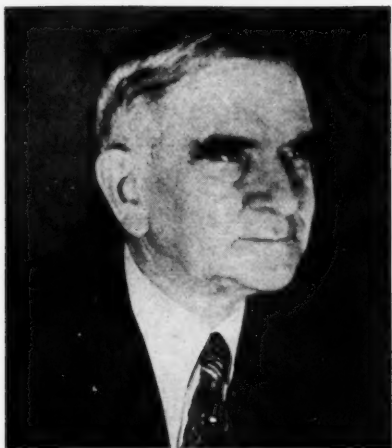
The hydro power to be developed at the Central valley project will be generated at two plants, one at Shasta with an ultimate installed capacity of 375,000 kilowatts and the other at Keswick just below Shasta with 75,000 kilowatt capacity, supplying power for industries, homes and farms as far distant as 300 miles. The plants also will provide power for pumping irrigation water to supply drought-ridden farms in the southern part of the valley.

Carey and other engineers of the Bonneville system planning section staff which he has headed have had to plan transmission extensions years ahead of construction. His estimates on power consumption have been extended to the year 2000. In March 1940, Carey predicted that the northwest states of Oregon, Washington, Idaho and Montana in the first eight months of 1940 would use 6,375,000,000 kilowatts of power. They actually used 6,374,358,000 kilowatts. He was off .002 of one per cent. He will utilize these forecasting abilities to good advantage in planning for uses of power to be developed by the new Central valley project.

FROM Los Angeles last month came the important announcement that Paul Shoup, former president of the Southern Pacific Co., had been re-elected president of the Merchant & Manufacturers Association.

New directors named by the association membership were William J. Hubert, Kroehler Manufacturing Co.; F. L. Johnson of S. H. Kress Co.; Charles J. Lick of Los Angeles Brewing Co.; E. L. Payne of Payne Furnace & Supply Co.; William J. Rawn of the R. J. M. Co.; Frank Simpson, Jr., of Savoy Hotel Co., Inc.; Charles P. Smith, Moderncraft Laundry Co.; Dillon Stevens of Plomb Tool Co., and Don Belding of Lord & Thomas advertising agency.

Colorful Paul Shoup, the association president, started his business career with a job as ticket clerk in the San Bernardino office of Southern Pacific. He had a natural ability to write and at one time was seriously considering abandoning his railroad work to devote his time to literary pursuits. He capped his railroad career nevertheless by going to top post with Southern Pacific, being elected president in 1929, relinquishing that job to accept



PAUL SHOUP
Labor Relations Head

the presidency of Southern Californians, Inc., in Los Angeles.

In the midst of a busy railroad career, Paul Shoup nevertheless found time to utilize his talents as a writer. He helped create *Sunset* magazine, a railroad house organ which later developed into a valuable property and was sold later to outside interests. His stories and articles illustrated by photographs taken by him were an important part of the editorial contents of the magazine which he fostered.

Paul Shoup rose from the ranks to be president of one of the most important transcontinental railroad systems. First really important job was his recall from Portland duties to San Francisco to assist in the rehabilitation work following the earthquake and fire of 1906. Six years later he was made president of Pacific Electric Railway, Southern Pacific affiliate, successively taking higher jobs until he was named president in 1929.

Dairy Industries

Journeying to Washington last month to confer with Douglas C. MacKeachie, director of the division of purchases of the OPM, were six Western members of Dairy Industries Advisory committee in an attempt to alleviate possible disruption of the delivery systems of the industry as a result of truck and tire curtailment.

At Washington were G. H. Benken-dorf, Milk Producers Association, Modesto, Calif.; Douglas Young, Qualitee Dairy Products Co., San Diego; A. G. Marcus, Crown City Dairy Co., Pasadena; C. E. Gray, Golden State Co., Ltd., San Francisco; Russell Walts, Consolidated Dairy Products Co., Seattle; and Roy D. Smith, Jerome Cooperative Creamery, Jerome, Idaho.

The dairymen were told that delivery systems may have to be revised on account of truck and tire restrictions. Small

producers, it was pointed out by MacKeachie, were likely to suffer most and any plan worked out must make provision for them to remain in business. As it stands now, the dairymen were told, they will be able to obtain new tires to insure delivery of products to wholesalers or retailers but no new tires will be available for home deliveries.

Reeves Talks to Ad Men

Raymond Reeves, regional business consultant of the U. S. Department of Commerce in San Francisco, was guest speaker at the regular monthly meeting of the Northern California Chapter of the National Industrial Advertisers Association, Industrial Marketers of Northern California, held at the Women's City Club Jan. 8. Norman D'Evelyn of D'Evelyn & Wadsworth advertising agency and Chapter head, presided. Mr. Reeves in his talk urged greater cooperation between business and the government agencies.

New Engineers' Chapter

From New York last month came word from F. W. Curtis, president of the American Society of Tool Engineers, that a San Diego, Calif. chapter, No. 44, had been chartered with the largest number of charter members on record in the technical organization's history, the chapter starting off with 158 members.

Elected officers at the San Diego charter meeting were: John J. Tucker, Quartermaster Corps, U. S. Naval Air Station, as chairman; Floyd Cox, chief tool designer, Solar Aircraft Co., as vice chairman; Richard J. Oertel, tool and die division, Consolidated Aircraft Corp., as secretary; J. Grant Cline, in charge of large fixture design, Consolidated Aircraft, as treasurer.

Foreign Trade Head

R. A. May, president of Getz Bros. & Co. and a leader in San Francisco foreign trade circles, has been elected president of the Foreign Trade Association of the San Francisco Chamber of Commerce. Formerly vice president, Mr. May succeeds William F. Minehan, bank executive.

Other officers elected to serve throughout 1942 were Frank C. Kugelberg, Williams, Dimond & Co., first vice president; Arthur B. Poole, American President Lines, Ltd., second vice president; E. F. Macfarlan, Standard Oil Co., third vice president; Emil Leuenberger, Wells Fargo Bank & Union Trust Co., treasurer.

Wm. L. Montgomery, manager of the San Francisco Chamber world trade department, was re-elected secretary.



LANE D. WEBBER
New Edison V.P.

LANE D. WEBBER, tax counsel for the Southern California Edison Co. since 1935, has been elected a vice president of the company by the Edison board of directors. He will continue as tax counsel, in addition to his new duties as vice president.

Webber is a member of the board of directors of the California Taxpayers Association. He has served as a director of the California State Chamber of Commerce and has been identified actively with California civic affairs for many years as an attorney, banker, and tax authority.

Before his association with the Edison organization he was for thirteen years vice president and trust officer of the First National Trust & Savings Bank, San Diego. He was president of the California Bankers' Association in 1930 and has been a member of the executive council of the American Bankers' Association.

Webber was engaged in the practice of law before his association with the First National Trust & Savings Bank and during his many years of residence in San Diego was prominent in the city's two international expositions and the administration of its chamber of commerce.

Standard Oil Promotion

George J. O'Brien last month was appointed assistant to the president by directors of Standard Oil Co. of California. He also will be chairman of the company's committee of executives in Los Angeles and representative of the board in that city. In assuming his important new position, O'Brien relinquishes his duties as treasurer of the company. Vice President J. H. Tuttle has been elected treasurer to succeed O'Brien.

Rayonier Promotion

The recent appointment of Morton B. Houston as vice president of Rayonier, Inc., with headquarters at the White Building, Seattle, is to fill the vacancy brought about by the death of W. L. Raymond last November. Well known in business circles up and down the Pacific coast, Houston has been with Rayonier for 11 years. He first came with the organization as purchasing agent, subsequently serving as assistant to the late Mr. Raymond.

Prior to his association with Rayonier, Houston was identified with the pulp and

paper industry in various capacities since 1912. He brings to his new position an extensive background of experience and intimate knowledge of the industry.

Paraffine Companies

Appointment of Ford M. Tussing as general superintendent of the Emeryville plant of The Paraffine Companies, Inc., was announced by R. H. Shainwald, executive vice president. Mr. Tussing succeeds the late James T. Coleman. He has been associated with Paraffine for the past 15 years. Irving Hovgaard succeeds him as assistant general superintendent.



DON BELDING
Lord & Thomas V.P.

DON BELDING, vice president of Lord & Thomas in charge of the Los Angeles office, has been made an executive vice president and director of the agency, and William J. Pringle, Jr., top account executive on the West Coast, a vice president. For the time being both men will remain in Los Angeles.

Belding has been a member of Lord & Thomas since 1924, and is serving his second year as president of the Pacific Advertising Association. He was placed in charge of the Los Angeles office of Lord & Thomas three years ago.

Pringle has been with the agency since 1928 and has directed some of its most outstanding advertising campaigns, including those of All-Year Club, Union Oil Co., and Pacific Mutual Life Insurance Co. He was recently placed in charge of the advertising being done for the California Fruit Growers Exchange, one of the largest co-operative accounts in the United States.

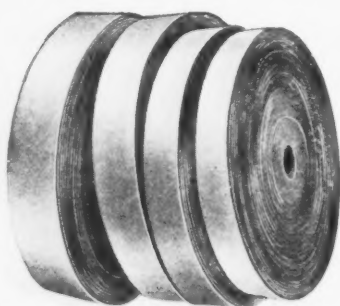
In Gov't Service

Four more westerners have been named to important government posts.

James E. Harper was named chief of the Lumber & Building Materials section of OPA. He is a native of Lakeview, Ore., where he was associated with the DeArmond Bros. Lumber Co.

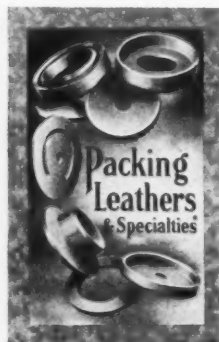
John H. Paswaters, Los Angeles, and O. H. Olson, Pasco, Wash., were named to the OPA consumer representation section of the division. Paswaters, advertising and merchandising expert, was formerly merchandising counsel to the Los Angeles Examiner. Olson is publisher of the Pasco Herald and a former member of the Washington state legislature.

C. M. Bishop, Pendleton Woolen Mills, 218 S.W. Jefferson Street, Portland, Ore., was appointed a member of the Woolen & Worsted Industry advisory committee of former OPM.



For more than sixty years Degen Star Brand pure oak tanned belts have turned the wheels of many of the West's largest industries. *When you have an extra tough drive, call Degen.*

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Petroleum Officers

California Oil & Gas Association directors at the annual meeting in Los Angeles last month named **Ralph B. Lloyd** of Beverly Hills as president for the coming year. Lloyd, who heads the Lloyd Corp. of Los Angeles, is a pioneer California oil man and one of the largest oil royalty holders in the Ventura, Calif., area.

Association vice presidents elected were **A. C. Mattei**, president of the **Honolulu Oil Corp.**; **Will P. Reid**, president of the **Hancock Oil Co.**, and **Reese H. Taylor**, president of **Union Oil Co.** **C. A. Johnson**, president of **Holly Oil Co.**, was elected treasurer; **Col. F. E. Foster** continues as managing director with **Dave S. Kilgour** as assistant manager.

Heads Truckers' Unit

The appointment of **Roy B. Thompson**, secretary-manager of the **Truck Owners Association of California**, as temporary manager of the **Civilian Motor Transportation** plan for northern California was announced from San Francisco last month. **Richard T. Eddy**, district director of the transportation division of the **Office of Emergency Management**, announced the appointment. Details of the formation of the **Civilian Motor Transportation** plan were given in mid-January by **Lieutenant-General John L. DeWitt** in charge of the western defense command and **Fourth Army**, and **John L. Rogers**, chairman of the **General Motor Transportation** committee, **OEM**, at San Francisco.

Security Bank (L. A.)

J. B. Connors, assistant vice president at **First National** office, last month celebrated his 30th year with **Security-First National Bank of Los Angeles**. In charge of the note department, Mr. Connors has also been for a number of years prominent in the affairs of the **Retail Merchants' Credit Association**.

Fray Machine Tool

The appointment of **J. O. Ellison** as sales manager was announced last month by **James H. Richards**, president of **Fray Machine Tool Co.**, **Glendale, Calif.**

Ellison has been associated with **Smith Booth Usher Co.** in Los Angeles since 1938, and has recently been in charge of all government orders as well as other company sales. His acquaintance with the tool and die business began in Chicago as a tool and die maker with **Kellogg Switchboard & Supply Co.** Soon after that he

moved to California and was tool and die maker for the **Chas. Hadley Co.** for several years.

Grocers' Committee

Three prominent members of the California grocery business in January were named members of a national industry advisory committee for the wholesale and retail grocery trade, part of the former **OPM** setup in Washington.

They are: **Herbert H. Sack**, **Piedmont Grocery Co.**, **Oakland**; **Albert George Ralphs** of **Ralphs Grocery Co.**, **Los Angeles**; and **Arthur W. Lutz**, **Smart & Final Co.**, **Wilmington**. Among duties the committee will consider are ways in which the grocery trade can assist in the conservation of such items as tires, tin cans, and paper bags.

New Defense Job

Prominent San Francisco businessman absorbed by defense needs last month was **Leonard A. Woolams** who accepted the job as financial adviser to the **Division of Contract Distribution**. In addition to other financial interests, he has been vice president and treasurer of **California Packing Corp.** at San Francisco. The newly appointed financial adviser will make his headquarters at the **Division of Contract Distribution**, **Western Merchandise Mart**, 1355 Market Street, San Francisco.

W. L. Kennicott, formerly Los Angeles sales manager of **McKenna Metals Co.**, is now at the head office and factory at **Latrobe, Pa.**, in the management of

sales and engineering of tools and their applications. **Kennicott** is a graduate metallurgical engineer of the **University of Utah**.

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LABOR—FROM LEFT TO RIGHT

IMPORTANT pending development which will affect shipping interests and labor in practically all Pacific Coast ports from San Diego to Seattle which are CIO labor controlled is the expected decision any day to result from the longshoremen's arbitration hearings on increased wage demands which came to a close the third week in January. Operations at three ports, Port Angeles, Anacortes and Tacoma, controlled as to longshoreman labor by the AFL International Longshoremen's Union which is making their own demands, will not be affected directly by this decision.

Closing the hearings last month, Wayne L. Morse, arbitrator of experience and dean of the Law School, University of Oregon, announced that a decision would be rendered on the necessity of a wage increase "within two weeks." CIO International Longshoremen's Workers Union is asking for its members a 25-cent increase in the present \$1 hourly rate with an increase in the overtime rate of \$1.50 hourly by 37½ cents. Union heads maintained that increased living costs justified higher rates asked and that longshoremen were giving a "reasonable day's work" under the terms of the two-year contract signed September, 1940. Gregory Harrison, labor relations attorney, argued for the wage increase.

"Slow-down"

Other interesting labor angles were brought out at the hearings. Countering the labor arguments, Henry P. Melnikow, head of the Pacific Coast Labor Bureau

representing the Waterfront Employers, came out with a statement that a "slow-down" prevailed in longshoremen's work on the Pacific Coast. He introduced an employer paid-for survey by Price, Waterhouse & Co. auditors which indicated that "work efficiency" was now at the lowest levels in the history of waterfront employment. As was to be expected, the unions met this with a statement that the report did not present an unbiased view and that employment efficiency had improved "substantially" since the contract-signing.

Testimony introduced for the Waterfront Employers was to the effect that before making their own survey they had asked the union to become party to a joint survey to determine factually the standards of employment efficiency, to be financed by both parties.

Secondary Boycott

Meanwhile, the hotel strike in San Francisco which started last summer continued with picketing of 18 of these houses. Failing to break the strike and enforce their demands, chief of which is the principle of a closed shop, the various AFL hotel employes units involved resorted to secondary boycott tactics. Secondary pickets appeared at the plant of S & W Fine Foods, Inc., grocers, in a pressure effort to persuade them not to ship groceries to the St. Francis Hotel. The grocery unit officials could not see eye to eye with union demands and asserted that they would not

become involved in controversies between customers and unions.

More important aspect to the secondary boycott effort, was that in the case of the plant of a local produce dealer. Here union delegates demanded that the produce dealer stop shipments to the struck hotels and a secondary picket line resulted. Major blow to the hotel workers unions was the refusal of the Teamsters Union to recognize the picket line, asserting that the picket line had not been sanctioned by the Labor Council. Teamsters continued to make deliveries.

Women Aircraft Workers

In Southern California, the aircraft producing units under the stress of huge expansion of output, were finding it difficult to secure adequate labor. Aircraft construction is essentially a young man's job. Added to the ranks of those companies which find it necessary to augment labor supplies by the employment of women, North American Aviation, Inc., officials at Inglewood, Calif., announced last month the employment of women. Here they started to work in the electrical sub-assembly department assembling electrical switch boxes and instrument panels. Women have been employed at the plants of Vultee Aircraft at Inglewood, Calif., and by Consolidated Aircraft at San Diego for several months and with considerable success. Married women with husbands in the military arms are given preference on jobs.

Increased Employment

The California Labor department announced last month that the changeover to a war economy in the state's manufacturing industries had raised employment by 65 per cent in the 18 months since the defense program started. As a guide to the rate at which defense work is going ahead almost 25 million man hours are now being used weekly in California industrial plants compared with slightly less than 14 million man-hours weekly in June, 1940 when the defense program really started, according to the Labor department report.

L.A. Railway

The National War Labor Board has referred to labor members of the board for adjustment the dispute involving the Los Angeles Railway, the Association of Street Electric Railway and Motor Coach Employees of America, AFL, the Transport Workers, CIO, and the Brotherhood of Railroad Trainmen.

The CIO union had called off a threatened strike late in January when the case was certified to the board. This union

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claimed that several of its members had been discharged for failure to join the AFL union which has a closed shop contract with the railroad company. A total of 3,500 workers is involved.

Threat to Close Plant

At San Diego last month where 3,000 are employed turning out aircraft training planes at the plant of Ryan Aeronautical Corp., representatives of the United Auto Workers, CIO, were quoted as threatening to "make Ryan a ghost plant" unless something was done to adjust grievances. Union demands were for retroactive wage increases. At the request of Washington, no strike resulted with the indication that an effort will be made to get the company and union heads together by conciliation.

Office Workers Row

War needs did not prevent strike threats at vital defense plants on the Pacific Coast. Alleged as having the sanction of AFL president William Green, inability to conclude a contract for office workers resulted in an Office Employees Union threat to call a strike at the California Shipbuilding Co. plant at Terminal Island in the Los Angeles area. The U. S. Conciliation commission is seeking a basis for an agreement. This company which employs 16,000 has a program for turning out one ship weekly for the U. S. Maritime commission.

BUSINESS BOOKS

Internal Revenue bulletin, cumulative January 1-June 30, 1941. Contains all decisions of the Treasury department, opinions of chief counsel, rulings and decisions pertaining to income, estate, gift, sales, capital stock, excess profits, employment, social security and miscellaneous taxes issued in the half year. Available at the office of Superintendent of Documents, U. S. Government Printing office, Washington, D.C., 589 pages, price 45 cents.

Published by the Institute of Distribution, the 1941-1942 edition of the *Retailers Manual of Taxes and Regulations*, with supplement and revision service, is now available to non-members. The manual is published primarily for use and service of major non-grocery chain store units which founded and maintain the Institute. Having accommodated member

needs, there are a limited number of copies available which now are offered to non-members on a "first come, first served" basis at reasonable cost. It is a valuable nationwide compilation of laws, trends and summarization of information which no retailer can afford to pass up.

While the supply holds out, the cost of this looseleaf manual is \$5.00 per copy without looseleaf binder which is now eliminated on account of the metal shortage. Manual supplement and revision service to July 1, 1942, to Institute non-members costs an additional \$5.00 with the reservation that if due to war or other causes the Institute should find it necessary July 1 to limit this service, it can be discontinued to non-members with a refund pro rata on the unserved term. The manual summarizes pertinent federal and all state tax laws and regulations affecting merchants. It contains one of the most comprehensive sections available on municipal tax and regulatory ordinances.—*Retailers Manual of Taxes and Regulations*, 1941-1942 edition, 297 pages, published by the Institute of Distribution, 25 West 43rd Street, New York, N. Y.

Regional Planning, part 6, the National Resources committee report on "Rio Grande joint investigation on the upper Rio Grande Basin in Colorado, New Mexico and Texas," with maps. This report forms a factual base on which a reasonable plan for future development of water

power resources of the upper Rio Grande Basin may be constructed, according to the committee. The book was first issued in February 1938, has been a popular volume and copies are still available. Price \$3.50 with accompanying maps. Superintendent of Documents, Government Printing office, Washington, D.C.

Changes in the labor laws made at the 1941 session of the Legislature have been incorporated in the 1941 edition of the Labor Code which has just been published, announced George G. Kidwell, director of the California Department of Industrial Relations.

"We find that many violations of the labor laws are not due to wilfulness but to lack of acquaintance with the statutes," said Mr. Kidwell, who urged all employers, labor unions and interested parties to secure copies of the new Labor Code.

Copies may be secured at the offices of the Supervisor of Documents at Sacramento and San Francisco at a nominal sum of 77 cents.

Van Nostrand Back

Randolph Van Nostrand has returned to his position as public relations manager of the Merchants & Manufacturers Association of Los Angeles, after being relieved from his temporary duties as information coordinator for the county defense council.

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- 1—260 H.P. Synchronous G.E. 225 RPM, 2200 volts, 210 KVA.
- 2—250 H.P. Westinghouse, Type CS, 290 RPM, 2200 volts.
- 1—200 H.P. G.E. Type I, 600 RPM, 440 volts.
- 1—200 H.P., G.E. 1800 RPM, 440 volt motor.
- 1—150 H.P. Westinghouse, Type CS, 1800 RPM, 440 volts.
- 1—150 H.P. Type B.F.M. 720 RPM, 440 volts.
- 1—150 H.P. Westinghouse, Type CS, 900 RPM, 2200 volts.
- 1—150 H.P. G.E. Type I, 720 RPM, 440 volts.
- 1—100 H.P., Slip Ring, G.E., 720 RPM, 440 volts.
- 1—75 H.P. Crocker Wheeler, 900 RPM, 440 volts.
- 1—62½-Ft. 25½-inch Double Leather Belt.
- 1—50 H.P. Westinghouse, 900 RPM, 440 volts.
- 1—50 H.P. Westinghouse, Type CS, 1800 RPM, 440 volts.
- 1—50 H.P. Vertical Fairbanks Morse, 1200 RPM, 220 volts, solid shaft.
- 1—35 H.P. Crocker Wheeler, 1200 RPM, 220 volts.

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- 1—600 Amp., Western Electric, 32 volt, 850 RPM, D.C. Generator.
- 1—300 H.P. Triumph Water Wheel with governor, 50 ft. head.
- 1—200 K.W. Westinghouse A.C. Generator, 900 RPM, 440 volts, 3 phase.
- 1—No. 70 ILG Blower, 17,430 CFM, direct to 6 H.P. 340 RPM, 3 phase motor.
- 3—75 KVA Transformers, Wagner Type HE, 6600 to 220/440/ volts, 60 cycle.
- 2—75 KVA Transformers, G.E. Type H, 6600 to 120/240/480 volts, 60 cycle.
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VIEWPOINTS

Readers are invited to give their views and exchange ideas through the medium of the editorial columns of Western Industry. Additional information relating to subjects of articles can be obtained by writing the Editor, using business letterhead if feasible.

Dear Sir: Thank you for your letter of December 23 acknowledging receipt of the preliminary minerals report. I appreciate your referring to it in the January issue of your publication.

The pressure of the legislative situation since Pearl Harbor has prevented further activity by the subcommittee, but we are hopeful of continuing the investigation shortly after the first of the year. A study of the oil situation is under tentative consideration for the next step. We are hopeful that after a final report on the entire investigation is completed, it will be possible to take steps toward opening up for development of all of the West's vast mineral resources. It is too early yet to state definitely just what recommendations will be submitted by the subcommittee.—Joseph C. O'Mahoney, United States Senate, Washington, D.C.

Dear Sir: This office has received your publication for some time past and has thoroughly enjoyed it, inasmuch as the magazine is very informative relative to Western conditions. Congratulations on the new form in which your magazine is now presented.

It is noted that the magazine is addressed to Mr. Ronald Shere, who is no longer connected with this organization, and it would be appreciated if future copies were addressed to the writer.—C. W. Shields, Deputy Procurement Officer, Procurement Division, Treasury Department, Phoenix, Arizona.

Dear Sir: The new format for *Western Industry* reached me in due time, and I desire to congratulate you on it. It is a decided improvement over the pocket size.—Frank M. Byam, Portland Chamber of Commerce, Portland, Ore.

Dear Sir: We hear so much now since war has started with Japan on the shortage of rubber. What is the situation here and what are the prospects for replenishing our supplies through increased output from synthetic sources and South America? Does synthetic rubber consume scarce and vital materials? Harold W. Parks, Los Angeles.

Upwards of 95 per cent of our rubber supply has come from Malaya in the past. These supplies have now probably been eliminated entirely though for more than a year this country has been building up a stockpile, now estimated as exceeding 600,000 tons or approximately a year's normal needs. Normally 80 per cent of our crude rubber imports are processed for the automobile industry, 16 per cent for mechanical rubber goods and 4 per cent for the boot and shoe industry. The need for tire rationing is self-evident.

Tree rubber output in South America has not been pushed, supplying about 14,-

000 tons yearly. Output of guayule rubber derived from a small plant grown in California is negligible. Our synthetic rubber program calls for production of 400,000 tons yearly by 1943. Most of the raw materials will be supplied by the petroleum industry using oil and natural gas. Synthetic rubber output here in 1939 was 2,000 tons; increased to 11,000 tons in 1940 and probably was 24,000 tons last year.—Ed.

Dear Sir: May I add my bit to the bevy of congratulations that must be pouring in on you on the January issue, its new and larger size, more attractive make-up, and the widened scope of its already wide coverage? I'd predict that the success you and your staff and your magazine deserve is only half way around that corner now, and you're rounding it speedily. Best regards.—Chas. P. Johnson, Westinghouse Electric & Manufacturing Co., San Francisco, Calif.

CALENDAR OF EVENTS

Feb. 1-5—BUYERS' WEEK, SEATTLE TEXTILE & APPAREL ASSN., Olympic Hotel, Seattle, Washington.

Feb. 3—DAIRY COOPERATIVE ASSOCIATION, Portland, Oregon.

Feb. 3-4—FIRE UNDERWRITERS ASSOCIATION OF THE PACIFIC, San Francisco, California.

Feb. 12—SAVINGS & LOAN LEAGUE OF COLORADO, Denver, Colorado.

Feb. 11-12—FEDERAL MARKET ADMINISTRATION, Sacramento, Calif.

Feb. 12-14 — NATIONAL THEATER CONFERENCE, Edmond Meany Hotel, Seattle, Washington.

Feb. 12-14 — EIGHTEENTH ANNUAL IRON & STEEL AND ALLIED INDUSTRIES CONFERENCE, Hotel Del Monte, Del Monte, California.

Feb. 16-19 — ASSOCIATED GENERAL CONTRACTORS OF AMERICA, Seattle, Washington.

Feb. 17-20 — AMERICAN CHAIN OF WAREHOUSES; AMERICAN WAREHOUSEMEN'S ASSOCIATION; ASSOCIATION OF REFRIGERATED WAREHOUSES; San Francisco.

Feb. 19-20—AMERICAN BANKERS ASSOCIATION, New Washington Hotel, Seattle, Washington.

Feb. 22-23—PACIFIC NORTHWEST FEED ASSOCIATION, New Washington Hotel, Seattle, Washington.

Feb. 25—WINE INSTITUTE, Palace Hotel, San Francisco.

February—OREGON STATE BOTTLERS ASSOCIATION, Portland, Oregon.

February—WESTERN PINE ASSOCIATION, Portland, Oregon.

February—WESTERN AUTO SUPPLY MANAGERS' CONFERENCE, Los Angeles, Calif.

February—CALIF. CITY & COUNTY PURCHASING AGENTS' ASSOCIATION, San Diego, California.

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GROWING PAINS

POWER PRODUCTION

WITH industry in the western states area getting into high-gear production to meet war needs, the various power producing agencies last month announced plans for the coming year to meet the growing demand for electric energy. From the headquarters of the new Central Valley project in California, which is constructing the Shasta, Friant and Keswick dams designed to provide 450,000 kilowatts, came word that concrete work on the Shasta dam power house on the west bank of the Sacramento river had been practically completed. It is expected now that actual installation of the new generators will be under way by May. However, according to present plans, the project will not begin to make power delivery until late in 1943. Five generators of 75,000 kilowatt capacity each eventually will deliver 375,000 kilowatts.

Part of this project, the Keswick dam plant, will produce 75,000 kilowatts eventually. Here, work was started in 1941. Also part of the Central Valley project, work on the Friant water storage dam is now about 93 per cent completed. Commenting on the situation in northern and central California, Department of Interior officials stress the need for more electric power to operate steel mills, magnesium and chemical plants, oil refineries and shipyards.

Pacific Gas & Electric Co., serving central and northern California, announced

that in collaboration with the OEM it planned to increase its electric power production by 285,000 kilowatts within the next two years. *Important part of the announcement was a statement attributed to OEM officials that electrical power rationing is scheduled in various parts of the country. Various unnamed areas on the Pacific coast will be subjected to power rationing, it was stated.*

This year Bonneville-Grand Coulee will be enlarged by 148,000 kilowatts with increases of 275,000 and 114,000 planned for 1943 and 1944 respectively. Parker and Boulder dams on the Colorado river in southern California and Nevada will be expanded by 195,000 kilowatts this year with increases of 142,500 and 30,000 slated for 1943 and 1944, respectively.

From Portland last month came word that the Bonneville Power Administration had approved a \$650,000 allocation for construction of a 115,000-volt transmission line from Spokane to Colfax. This line will carry additional power for a government aluminum plant being constructed in Spokane, completing a power loop connecting Grand Coulee dam, substations at Midway, Vernita, Walla Walla, Colfax, Wash., and Lewiston, Idaho. Two lines of equal capacity already are under construction between Grand Coulee and Spokane. The Defense Plant Corporation last month authorized the Bonneville Power Administration to build near Tacoma a substation to cost \$1,000,000.

Meanwhile, it was announced that Grand Coulee dam's second 108,000-kilowatt generator was ready for testing. At Los Angeles, Calif., and Nevada, power officials studied plans to reallocate electrical power to provide an adequate supply for the projected 70-million dollar magnesium plant to be erected near Las Vegas, Nev.

Aluminum Plant Site

The eventual site of the 20-million dollar aluminum rolling mill which had been allocated to Fairview, Ore., was apparently in some doubt last month. Preliminary construction work got under way in December and was halted early in

• The Army's modern blacksmiths go into action! Welding units set up in trucks follow the men to the front, repairing equipment as necessary, instead of wasting time returning it to shops behind the lines. Photo, U. S. Army Signal Corps.



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- 2—4" single stage split case, double suction bronze fitted ball bearing Fig. 870 Fairbanks Morse Centrifugal pump mounted on cast iron base and direct connected through flexible coupling to 25 HP. 3600 RPM Fairbanks Morse Ball Bearing motor: Conditions 600 GPM 190 feet.
- 2—2" single stage DeLaval centrifugal pump mounted on cast iron base and direct connected through flexible coupling to 7½ H.P. 1800 RPM G.E. motor: Conditions 300 GPM 58 feet.
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 - 1—5 HP 4 pole U.S. Motor
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- 36" Bandsaw
- 8-ton Yale & Towne Chain Block
- Crescent Combination Woodworker
- 30-H.P. 900 RPM G.E. Motor
- 150-H.P. 1200 RPM G.E. Motor

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January on orders of the Defense Plant Corp. Here it was stated that in line with the government's policy of decentralization of industry away from the Pacific coastline, the plant might be moved some 400 miles inland.

It was indicated that the plant might be moved to the Spokane area. The reported consideration of a possible site for the rolling mill somewhere in Utah was met promptly with the argument that power was not available to supply the project which requires huge amounts of electrical energy. Utah state officials, however, promptly pointed out that there were a number of available power sites on the Colorado river in that area. These arguments lost most of their effect because of the time necessary to construct power dams and plants. Portland and Fairview, Ore., officials declared War department officials had advised them that they were not opposed to the location of aluminum fabricating plants in that area. Final decision as to the location of the plant, however, rests with the Defense Plant Corp.

Vanadium Unit

The addition of \$125,000 to the \$725,000 previously allotted to the Vanadium Corp. of America for construction of a plant at Monticello, Utah, was announced last month by the states' industrial development commission. Work on the \$850,000 federal government financed plant got under way last month, and it is expected to be producing vanadium by next July. Roads in southeastern Utah will be developed to enable delivery of ore from adjacent mines for the refinery. The strategic value of this plant was stressed with the statement that this country has been importing 60 per cent of its vanadium from Peru. The metal has special hardening qualities which are used in steel manufacture. Dies and machine tools are especially heat-proof and wear-resistant when made of vanadium hardened steel.

Alaskan Contract

Bringing the total of contracts held to 79-million dollars, Siems-Drake-Puget Sound Co. of Seattle last month received a 14-million dollar additional contract from the Navy Dept. for construction work at Kodiak, Sitka and Dutch Harbor in Alaska. This associated unit is comprised of Siems, Spokane Co. of Spokane; Johnson, Drake & Piper, Minneapolis; and Puget Sound Bridge & Dredging Co., Seattle.

Consolidated Builders, Inc., of Seattle, one of the contractors for Grand Coulee dam has been issued a work order for construction of the \$4,000,000 east power house at the dam. The power house, second at the dam, will be built as fast as priorities for materials can be cleared.

Joshua Hendy Expands

Westinghouse "know-how," gained in 45 years of steam turbine and gear manufacturing, will speed up production for the Navy and U. S. Maritime Commission by helping a California firm to build vital ship propulsion equipment.

A license agreement has been announced by Westinghouse, authorizing the Joshua Hendy Iron Works of Sunnyvale, Calif., to use its plans and processes to produce marine turbines, gears and auxiliary apparatus.

The Sunnyvale plant will be the first west coast firm to manufacture turbine geared propulsion equipment. Its engineers are observing manufacturing operations in the Westinghouse South Philadelphia works, where propulsion equipment for more than 100 Navy fighting ships and a large number of merchant vessels is being manufactured.

Joshua Hendy Iron Works was established in 1856 as a metal fabricating concern. The plant is now at work on reciprocating steam engines for Liberty type cargo ships being built at Portland, Oregon; Los Angeles and Richmond, Calif. The concern is associated with enterprises headed by a number of Pacific coast industrialists, including Henry J. Kaiser and Felix Kahn. Charles E. Moore is president.

Coast Plant is Cited

The Navy "E," traditional mark of distinction for outstanding service in the line of duty, was presented a commercial concern in the San Francisco bay area last month for the first time in history. The event took place January 27 when the award was presented to officials of the Rheem Manufacturing Co. at Richmond, Calif. by high ranking naval officials for outstanding achievement in the production of defense materials.

Each of the 350 workers at the plant including executive and staff members participated in the award and were given the famous "E" in the form of buttons.

N. W. Glass Plants

Selection of Longview, Wash., as the Northwest distribution point for its products, was announced last month by the Owens-Illinois Pacific Coast Glass Co., subsidiary of Libby-Owens-Ford. The company has purchased a 25-acre industrial site adjoining the Long-Bell lumber mill adjacent to the port of Longview, and will begin immediate construction of a warehouse with 54,000 square feet capacity.

While no definite announcement was made, company officials have indicated that a manufacturing plant is a possibility for the near future, city officials asserted. It was pointed out that the size of the

tract purchased was sufficient to allow for a factory building. Increased use of glass containers due to the tin shortage is expected to increase the demand for this company's product.

At Hood River, Ore., it was announced that negotiations for the purchase of a property for the location of a \$75,000 glass factory near Cascade Locks were under way. Negotiations for the plant site, it was indicated, were going on with the Cascade Locks Port Commission. If negotiations for a plant site are consummated, construction can be started within a month, it was declared.

Calif. War Contracts

Production of war material is revolutionizing the industrial economy of California and the Pacific coast, California now having passed the four billion dollar mark for war material on plant contracts, the California State Chamber of Commerce announced last week. California continues to hold first rank in the nation in war contracts awarded.

There are now more than 360,000 workers employed in production of essential war materials or considerably more than half of the total of industrial employees. According to the best available estimates, the population of the state has shown a net increase of 443,000 during the twenty months which have elapsed since the 1940 census. This increase in population is largely attributable to defense migration.

The number of factory employees as compared with a year ago has increased 59 per cent and payrolls have nearly doubled. Average weekly earnings at the close of 1941 were \$38, a gain of approximately 25 per cent over the 1940 level. In this same period the cost of living of wage earners rose about 9 per cent in the metropolitan areas.

Building Costs Increase

Factory-building costs at the close of 1941 were 19 per cent above the average of a year ago, according to the index computed quarterly since 1913 by the Austin Co. engineers and builders, whose executives anticipate continued advances during 1942. The fourth quarter index of 112 was up two points over the third quarter of 1941 and compared with an index of 94 for the last quarter of 1940.

"The upward trend of industrial building costs continued right up to the end of the year despite relative stabilization of material prices and payroll rates which has definitely checked the rate of advance," George A. Bryant, Austin president commented. "The large number of inexperienced men who have had to be employed within the last few months accounted for much of this recent increase."

PACIFIC COAST BUILDING PERMITS

NEW RESIDENTIAL BUILDING—TWELFTH FEDERAL RESERVE DISTRICT

Index numbers of value of permits issued—1923-1925 daily average=100
(December indexes preliminary)

	Adjusted for Seasonal Variation						Without Adjustment for Seasonal Variation					
	1940		1941				1940		1941			
	Nov.	Dec.	Sept.	Oct.	Nov.	Dec.	Nov.	Dec.	Sept.	Oct.	Nov.	Dec.
Twelfth District	79	107	89	82	100	58	74	85	99	83	93	45
Twelfth District excl. Gov't projects*	61	65	62	67	89	52	58	55	69	68	83	40
Twelfth District excl. Gov't proj. and Met. Life proj.	61	65	62	67	60	52	58	55	69	68	57	40
California	73	114	72	79	95	53	70	93	79	81	89	44
Southern California	62	131	97	88	65	63	63	113	106	92	66	54
Northern California	96	79	73	59	155	32	85	54	79	58	137	22
Oregon	42	43	39	71	39	60	34	26	46	73	31	36
Washington	167	83	112	111	213	65	146	47	121	92	185	37
Intermountain	90	97	133	112	93	166	79	63	175	114	81	108

*USHA and permanent defense housing.

The Twelfth Federal Reserve District comprises Washington, Oregon, California, Nevada, Idaho, Utah, and northwest Arizona.

New private residential building in the Twelfth Federal Reserve District declined sharply in December to the lowest level in three years. Decreases were particularly marked in northern California. In San Francisco, for example, permits were taken out for only 104 dwelling units, the smallest number since December 1937, the Federal Reserve Bank of San Francisco reported last month.

Collection of statistics on new nonresi-

dential building is becoming more difficult owing to wartime restrictions on the release of data pertaining to defense construction. Probably the December 1941 nonresidential totals given below are somewhat deficient in army, navy, and defense plant building data which have been dormant in recent months. It is believed, however, that such deficiencies as may exist do not seriously impair the comparative value of these totals.

Utah Seeks Plant

Municipal and county officials of southern Utah communities last month were engaged in an effort to secure the support of northern Utah communities in an effort to locate an alunite metal producing plant to be financed by the government at Marysville in Washington county. Arguments advanced for the location of a plant in this sparsely populated section of the state were further decentralization of defense plant facilities, and favorable location near the alunite ore deposits.

F. G. Martinus of Richfield, Utah, chairman of the Associated Civic Clubs of Utah who headed the movement for a plant location, said that such a plant should be constructed by a private company.

Nevada Magnesium

Construction of the \$3,000,000 calcining plant at the site of the extensive magnesite ore deposits near Luning, Nev., was scheduled to begin late in January. A tent city at the plant site is being erected to house the construction workers. When completed, the plant will be used as the first step of transforming the vast magnesite deposits here into magnesium metal, part of the operation of the new 70-mil-

lion dollar magnesium plant to be constructed near Boulder dam in southern Nevada.

Haviside Moves Office

Haviside Co. ship chandlers have removed to a new plant and office quarters located at 40 Spear Street, San Francisco. Old plant was located at 56 Steuart Street.

PACIFIC PISTON RINGS

Manufacturers

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AUTOMOTIVE SIZES
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All-purpose oil ring

LOS ANGELES

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NAVY PLANT

The Navy department budget for the coming year, announced from Washington, D.C., includes many projects for the Pacific coast all the way from the Puget Sound area to San Diego. Oakland heads the list with \$2,600,000 allotted for additional supply facilities at that depot. Additional facilities at the Seattle naval air station call for \$540,000 while new receiving ship facilities at Terminal Island, Los Angeles harbor area, will require \$728,000.

The naval budget includes the following projected construction at naval stations:

Mare Island, Calif., navy yard—Storehouse for large boats, \$225,000; heavy materials storehouse, \$375,000; paint and oil storehouse, \$375,000; extension of lumber storage, \$150,000.

Puget Sound, Wash., navy yard—Extension of paint and oil storehouse, \$80,000; lumber storehouse, \$250,000; quarters and accessories for officers, \$140,000; extension of enlisted men's recreation building, \$50,000; improvement of storage facilities, \$45,000.

Roosevelt Base (Terminal Island), Calif.—Receiving ship facilities, \$728,000.

San Diego, Calif., naval training station—Additional training facilities including buildings and accessories, \$330,000.

San Clemente Island, Calif., fleet training base—Additional fleet training facilities, including buildings and accessories, \$1,515,000.

Mare Island, Calif., naval ammunition depot—Office building and accessories, \$45,000.

Puget Sound, Wash., naval ammunition depot—Extension of administration building, \$45,000.

Keyport, Wash., naval torpedo station—Extension of transportation building, \$60,000.

Puget Sound, Wash., naval hospital—Ward building and accessories, \$285,000.

San Diego, Calif., naval hospital—Quarters and accessories and services, commanding officer, \$18,500; ward buildings and accessories, \$285,000; general service building and accessories, \$150,000.

San Francisco area, naval hospital—Hospital facilities, including buildings and accessories and acquisition of land, \$2,000,000.

Alameda, Calif., naval air station—Additional aviation facilities, including buildings and accessories, \$450,000.

San Diego, Calif., naval air station—Additional aviation facilities, \$100,000.

San Pedro, Calif., naval air station—Additional aviation facilities, \$250,000; additional ammunition storage facilities, \$37,100.

Seattle, Wash., naval air station—Additional aviation facilities, \$540,000.

Tongue Point, Ore., naval air station—Additional aviation facilities, \$60,500.

Naval direction finder station, Pacific Coast—Direction finder facilities and acquisition of land, \$125,000.

San Diego, Calif., naval fuel depot—Garage and utility building, \$60,000.

Oakland, Calif., naval supply depot—Additional supply facilities and underpass, \$2,600,000.

TIRE RATIONING

The impact of tire rationing bore down with grim reality last month. Analysis of the tire rationing regulations indicated that few—very few, and only those engaged in strictly essential tasks—could hope to obtain new rubber for vehicles.

As an example, in Oakland, Calif., a city of 350,000 population, R. A. McDonald, chairman of the local rationing committee, declared that only 385 new tires had been allocated in January for the city to be rationed to those eligible under OPA regulations.

Summarized, those entitled to purchase new tires comprised owners of vehicles operated by a physician, surgeon, visiting nurse or a veterinary and which are principally for professional services; vehicles used to maintain fire fighting service, to maintain public police services, to enforce laws relating specifically to the protection of public health and safety and to maintain mail services.

Also included are vehicles with a capacity of ten or more passengers, used as a part of the services rendered by a regular transportation system; to transport students and teachers to and from schools and employes to and from industrial and mining establishments or construction projects where there are no public transportation facilities available.

Trucks also may obtain tires when they are used in the transportation of ice and fuel, material and equipment for the building and maintenance of public roads, of public utilities, of production facilities, of defense housing facilities and military and naval establishments, and in transportation essential to render roofing, plumbing, heating and electrical repair services.

Trucks used in transportation by any common carrier, transportation of waste and scrap material, transportation of raw materials, semi-manufactured goods and finished products, including farm products and foods, provided they are not used for the transportation of commodities to the ultimate consumer for personal, family or household use, also are eligible.

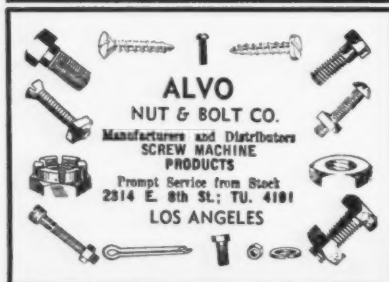
Farm tractors and other farm implements, other than automobiles and trucks, on which rubber tires and tubes are essential and industrial, mining and construction equipment, other than automobiles and trucks, are eligible.

WIRE ROPE

Wire Rope—Manila Rope—Tackle Blocks
Sheaves—Chain and Coffing Hoists
Shackles—Turnbuckles—Splicing
V-Belt and Roller Chain Drives
Alumite Guns—Plomb Tools
Fiege Electroline Wire Rope Fittings
Safe-Line Clamps—Safety Clips

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LOS ANGELES

Winery Expands

Plans for the immediate expansion of the Central Winery, Inc., plant at Kingsburg, Calif., to house new equipment for bottling wines and brandy at a construction cost of \$250,000 were reported from Fresno last month. Present plans call for the construction of a modern bottling plant where sweet and dry wine will be bottled and packaged. Part of the plan here includes a champagne aging and bottling room with a capacity of 40,000 cases yearly.

A Finish for Every Industrial Need

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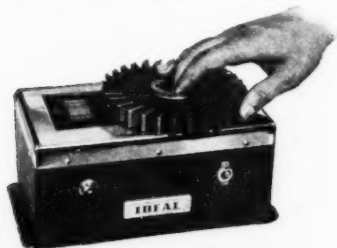
SAN FRANCISCO

EXbrook 3038

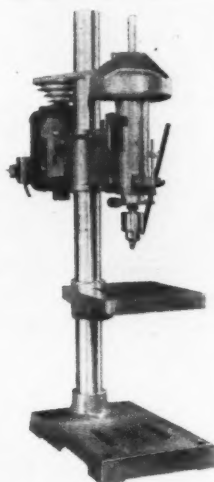
THE SHOWCASE

For more complete information concerning any of the products listed in these columns, write to the manufacturer or drop WESTERN INDUSTRY a postcard. The descriptions of the product and claims made are those of the manufacturer.

• **DEMAGNETIZER**—Because it helps to speed up production, make work easier and improve quality of work, this demagnetizer, which is compact and powerful, fits right into the defense program. It quickly demagnetizes tools, drills, dies, punches, and work held in magnetic chucks. Abrasive particles, such as metallic dust, flakes, fine chips, etc., which simply can't be wiped off clean with a rag are easily removed after a single pass across the magnetic poles. After the tool or part is demagnetized, it can be laid on a bench or shelf without again attracting nearby metals. Ideal Commutator Dresser Co., 1375 Park Ave., Sycamore, Ill.

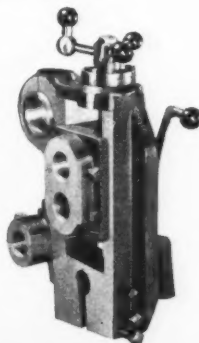


• **DRILLING MACHINE**—This "Hi-Duty" sensitive drilling machine is of the bench or floor type, motor driven, with a rectangular table as support and a smaller rectangular table or tilt table for production purposes. The base is of close-grained cast iron, well ribbed, of sufficient weight and floor area to prevent vibration. Adequate bolt holes are provided for securing the machine to bench or floor. The table can be adjusted vertically on the column and locked by means of a clamp arrangement. It is adjustable horizontally to a full 360 degrees and can be tilted 90 degrees from a horizontal position. The drill head is of a close-grained cast iron, carefully and accurately machined and finished. It is adjustable for vertical traverse by means of a clamp collar arrangement provided, and can be clamped quickly and securely to the column at any position. The spindle is mounted in high-grade ball bearings, arranged to take both radial and thrust loads, and has two splines for drive purposes. Means are provided to prevent vertical lost motion. The feed mechanism consists of a steel gear rack and pinion, manually operated by

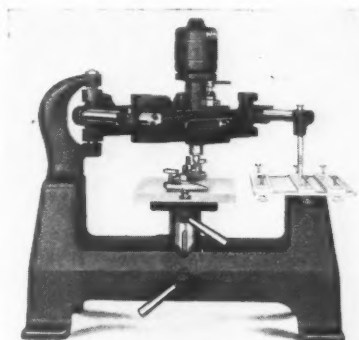


means of lever rod and provided with a suitable graduated depth gauge to set the depth of cut. The machine also is fitted with suitable safety devices of the latest type. All moving parts which may cause injury, are, insofar as is practical, covered with protective shields and guards. Taylor Manufacturing Co., 3056 West Meinecke Ave., Milwaukee, Wisc.

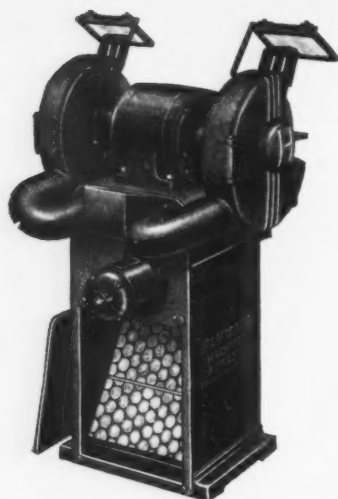
• **TURRET LATHE**—A new, heavy-duty adjustable turning head for turret lathes, designed for turning and boring work, accommodating standard cutter holders in one of the two holes on the slide as well as additional tool holders in the auxiliary slide mounted at the rear, was announced recently. The main slide is quickly adjusted to size by means of a ball crank handle, fitted with a large micrometer dial and observational clips. A long binder lever rigidly locks the tool slide, permitting heavy, accurate cuts. The auxiliary slide is vertically adjustable. An extra-large overhead pilot bar, giving support to the tool, can be mounted on the machine or on the tool itself. Gisholt Machine Co., 1181 East Washington Ave., Madison, Wisconsin.



• **PANTOGRAPHIC MACHINE**—An improved machine of pantographic operation, for rotary engraving, electrical marking, and acid etching, was announced recently. Separate heads, quickly interchangeable, are used for the three classes of work, and the ball-bearing-mounted pantograph provides reductions from 1.8 to 1 down to 5 to 1. With the engraving head, shown in the illustration, the depth of cut is controlled, independent of the depth of the master characters, by a micrometer adjustment mechanism. Movement of the cutter, toward and away from the work, is controlled by a cam-action drop lever, independent of the vertical position of the tracing stylus, with resulting ease of handling, cleanness of cut, and accuracy. The cutter spindle, equipped with adjustable ball bearings, is driven by a ball bearing motor of universal type. It is stated that this equipment produces uniformly excellent engraving on all metals, from mild steel to soft alloys, and on plastic materials, ivory, hardwoods, etc. The entire equipment, including all attachments, is fully described and illustrated in a new folder which may be had upon request. H. P. Preis Engraving Machine Co., 157 Summit St., Newark, N.J.



• **GRINDER WITH DUST COLLECTOR**—A new compact unit, for tool and light snagging grinding with self-contained dust collector, was introduced recently. Design of these new machines features the completely self-contained dust collector. The dust collector unit is mounted inside the base of the grinder. The only parts outside are the fan motor, connecting pipes from wheel guards to dust collector and air exhaust vent-guard. The filters of fiber glass provide most efficient air clearing. Because of the shape of the air ducts within the base, the heavier grinding particles are carried down to a compartment in the bottom of the filter housing, thus, only the lighter particles and air go through the filters. The filters,



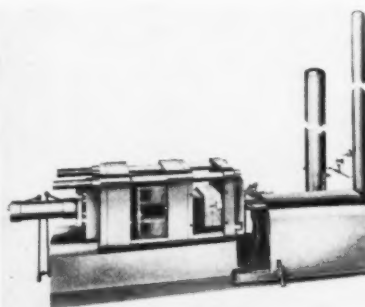
in a sliding frame, are easily removed or replaced through the opening shown. Cover plate has been removed. It is claimed that with this system, filter replacements are not needed as frequently as those employed in dust collectors in which all the grinding particles are collected by the filters. It is claimed that these grinders require less floor space, and as a result, the units may be placed much closer to walls or in line, back to back, with adequate room for filter replacements. Hammond Machinery Builders, Kalamazoo, Mich.

• **SLIP-PROOF PULLEY COVERING**—Brush this liquid on the face of any pulley, flat or V-type, and it prevents slippage and increases efficiency of belt drive as much as 50 per cent. Coating has a rubber base and is so compounded as to adhere to metal, wood or composition pulleys. Apply it at end of day, and pulleys are ready for use the following morning, according to the manufacturer. Nonslip Pulley Covering Co., 777 Hertel Ave., Buffalo, N.Y.

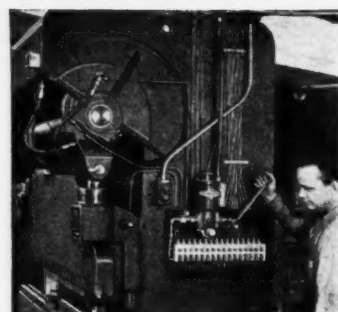
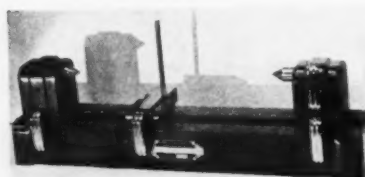


• **DIE CASTING MACHINES**—As a means of speeding production of magnesium, aluminum and copper base alloy die castings in the aircraft and other defense industries, Harvill Aircraft Die Casting Corp. has announced that its die

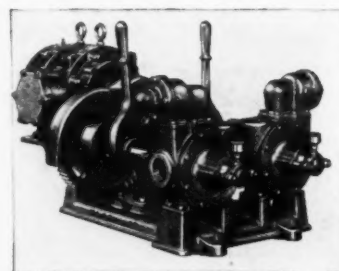
casting machines will be offered to other companies, including the necessary techniques and production methods pioneered by the organization. This firm is credited with developing die casting machines and processes for die casting aluminum, magnesium and copper base alloys that result in castings that have physical characteristics far in excess of specifications. Aluminum die castings from Harvill machines have tensile strengths of over 38,000 pounds per square inch, with over 3 per cent elongation; which permits the use of aluminum die castings for many structural parts which formerly had to be fabricated or produced by other slower and more costly methods. Each machine is complete with specially developed accessory equipment, such as alloying furnace, holding furnace, ladles and pyrometer control equipment. Harvill Aircraft Die Casting Corp., 6251 West Century Blvd., Inglewood, Calif.



• **BENCH CENTER**—This machine was designed to provide the most accurate and economical method for inspecting cylindrical and circular pieces, according to the manufacturer. The base is cast from nickel cast iron and is of well-ribbed box construction with finished ways cast integral. Both headstock and tailstock are adjustable and may be clamped rigidly at any position on the bed by quick-acting, powerful clamps. The tailstock has a spring-loaded, hardened and ground sliding center which can be locked readily in a position by moving the quick-acting lever to the left. When moved to the right, the lever unclamps and retracts the center, all in one motion. The headstock center is fixed and all three sliding members locate from the same reference surfaces, insuring accuracy. The slide, or indicator base, is provided with a vertical post and is used with a standard type indicator clamp. Barber-Colman Company, Rockford, Ill.



• **LUBRICATING SYSTEMS**—Many features have been incorporated in this latest centralized lubricating system, according to the manufacturer. Now in wide use on industrial machinery of all kinds, it is an easily installed system for lubricating all bearings. The system consists of a number of injectors, one for each bearing to be lubricated, each connected to the bearing by tubing or flexible high-pressure hose as required, and each individually adjusted to discharge the required amount of lubricant. The injectors can be mounted singly or in manifold, and are supplied with lubricant from a central pumping unit. The pumping unit on the Centromatic installation illustrated, can be easily mounted right on the machine, and a few strokes of the handle deliver lubricant to all bearings. The entire system can be operated either electrically with push button control, or entirely automatic with time clock control. Lincoln Engineering Co., 5701 Natural Bridge Ave., St. Louis, Mo.



• **DUPLEX PUMPING UNITS**—This new unit was developed for use in bulk stations, blending plants and refineries. It also has many applications in the industrial field for handling naphtha, tar, printing inks and similar liquids and semi-solids. In fact, it is claimed that the pumps will handle practically anything that flows through pipes. The pumps are standard Blackmer "Bucket Design" (swinging vanes) with newly developed streamlined inlet chamber which permits the handling of liquids of greater viscosity without any lowering of the volumetric efficiencies. New design built-in relieve valves (optional equipment) will handle the full capacity of the pumps without shock or end thrust on the working parts. Blackmer Pump Co., Grand Rapids, Mich.

YOURS FOR THE ASKING

1011

• **BLUE PRINT READING**—Concisely written in simple, practical language, this book is easy to understand. It is intended that welders, mechanics and others will be enabled, by a few hours of spare-time study, to learn print reading which otherwise might take many months to learn. More than 50 drawings have been revised in the new edition of the volume, which is designed to aid and instruct anyone working from blue prints. The text gives the student a clear understanding of symbols used in drawing various types of welded joints, including butt, corner, fillet, lap, etc. The illustrations contained in the book include practical examples of drawings of a number of machine parts, pipe connections, general construction, tanks, etc. The Lincoln Electric Co., 12818 Coit Road, Cleveland, Ohio.

1012

• **FABRICATING METHODS**—Technical Bulletin T-4, "Methods for the Fabrication of Clad-Steel Plate" recently has been revised in accordance with the latest field practice. The information contained therein describes strength and permanence of bond, mechanical properties, standards of cladding and sizes and finishes. Instructions are given for cold working, hot working, annealing, design, fabrication, arc welding and surface cleaning. The International Nickel Co., Inc., 67 Wall St., New York, N. Y.

1013

• **PLASTIC TRIM**—An eight-page pamphlet, showing this company's line of decorative plastic trim, was published recently. Included are the different available colors and types of trim, suggestions as to how they may be used along with directions for installation. Plastiktrim is made of an especially formulated material, and serves many purposes in architectural and interior design. R. D. Werner Co., Inc., 380 Second Ave., New York, N. Y.

1014

• **RESISTANCE THERMOMETERS**—Catalog No. 9004 is a comprehensive presentation of the nature, design, performance and application of thermometers in industrial processes, scientific work, refrigeration, air conditioning, etc., which involve the measurement and control of temperature. Each page is illustrated with an actual photographic reproduction of the various types of Brown resistance thermometers, control accessories, moisture-proof rotary switches, key switches and switch cabinets, resistance thermometer bulbs, marine type spray-proof bulb, wet and dry bulb assemblies, bulbs for

room or outdoor temperatures. The illustrations are accompanied by detailed descriptions and specifications. Brown Instrument Co., Wayne and Roberts Ave., Philadelphia, Pa.

1015

• **SAW GUARD**—A four-page leaflet, "Flohr Guards for Woodworking Machinery," illustrating guard construction and installations, has been released recently. Completely automatic in operation, the saw guard offers the following features: 1) Can be mounted to permit use of entire table top area. 2) Double action shields provide maximum protection during all phases of operation. 3) Splitter located directly behind saw prevents binding. 4) Non-kick-back fingers eliminate material climbing saw and striking operator. 5) Suitable for stationary or tilting tables. 6) Sturdy construction eliminates practically all vibrations. 7) Steel backbone prevents injury in event of the saw breaking. 8) Lowers insurance costs. 9) Increases production. 10) Can be furnished for saws up to 30-inch diameter. Flohr Mfg. Co., 2221 Emwood Ave., Buffalo, New York.

1016

• **"PRESSURE-TREATED" WOOD**—"Pressure-Treated Wood for Permanent Low Cost Housing" is the title of a leaflet just published. Illustrations show construction for low-cost basementless houses, the parts of buildings which need protection against decay and fungus, and the treatments suggested for painted and unpainted wood. Also discussed are United States Housing Authority recommendations for preservative treatments. Wood Preserving Div., Koppers Co., Koppers Bldg., Pittsburgh, Pa.

1017

• **DIESELS ON DEFENSE**—A 24-page booklet, recently published, reveals the part "Caterpillar" is playing for our own national defense during the present emergency—both within its huge organization and in the field. Facts, figures and pictures from typical defense jobs at home and abroad graphically portray the work done by diesel power. Form 7016. Caterpillar Tractor Co., Peoria, Ill.

1018

• **ELECTRIC HOIST**—All the features of the new CM Meteor heavy duty electric hoist are described in a 28-page catalog, just released. Illustrations are used throughout to picture practically every advantage. It contains an illustration of the hoist, with detail drawings, all types of suspension and trolley arrangements, and a list of accessories that are available.

Some of the more important features of the CM Meteor are: Streamlined design which provides compactness and eliminates excess weight; aeroplane type cooling fins which quickly dissipate the heat generated by gears and load brake; fully enclosed, weatherproofed design which permits the Meteor to be universally used, indoors and out. Chisholm-Moore Hoist Corp., Tonawanda, New York.

1019

• **DIE SPRINGS**—A new die spring 8½-inch by 11-inch four-color bulletin which illustrates, describes and prices die springs for high-speed presses, regular speed presses and heavy-duty presses, has just been published. Printed on heavy card stock for convenient filing, all die spring information is presented in a condensed tabular style easy to understand. Muehlhausen Spring Corp., Logansport, Ind.

1020

• **VENTILATION**—To assist in prompt handling of ventilation problems in factories and industrial plants resulting from night operations under blackouts, a co-operative service was established by the Utility Fan Corp. Manufacturers seeking prompt assistance are guided by the experience of utility engineers and dealers so that installations can be made in minimum time. Literature illustrating and describing the complete line of air moving equipment, including blowers, industrial exhausters, propeller fans, spot coolers, all-year conditioners and enclosed drive blower sets has just been issued. Utility Fan Corp., 4851 So. Alameda St., Los Angeles, Calif.

1021

• **ELECTRONIC CONTROLS**—A technical and reference bulletin, No. S-41, covering its complete line of resistance welder heat-controls, synchronizers and synchronous timers, as well as its line of power and control units for welding equipment and automatic machinery, has just been issued. In addition to descriptions of the individual units, the bulletin also contains general technical material dealing with the application of welding controls. Weltronic Corp., 3080 East Outer Drive, Detroit, Mich.

1022

• **PROTECTIVE COVERING**—Application of a washable protective covering for flat wall paint and wallpaper, designed for use in plants, warehouses, institutions, offices and stores where it is desirable to provide for easy cleaning of wall surfaces, is described in a six-page folder, "As If By Magic." Bergonize, as the product is

called, may be applied over a newly painted or over a cleaned wall, and provides a clear, transparent, flat protective film which prevents dust, dirt and grime from penetrating the pores of the paint or the wallpaper. It is removed from a protected surface merely by application of clear water with a sponge or rag. The Bergonize Co., Merchandise Mart, Chicago, Ill.

1023

• **POLYPHASE MOTORS**—A new 34-page bulletin on single-phase, direct-current and small polyphase motors manufactured by this company was published recently. The bulletin contains detailed descriptions of the construction of repulsion-start-induction motors, repulsion-induction motors, capacitor-start motors, split-phase motors, direct-current motors, small polyphase motors, fan motors and explosion-proof motors, along with illustrations. Bulletin MU-183. Wagner Electric Corp., 6400 Plymouth Ave., St. Louis, Missouri.

1024

• **VIBRO-ISOLATORS**—"Extra Machine Hours," an eight-page bulletin recently made available for general distribution, should prove interesting and informative to industry, particularly to engineers. Prominent installations of the Korfund Type "S" series vibro-isolators are pictured. A wide range of marine and stationary applications are shown covering Diesel engines and general industrial machinery. A chart concerning the rated capacities of this series is embodied in this bulletin for preliminary information. Bulletin BA-32. The Korfund Co., Inc., 48-15 Thirty-second Place, Long Island City, New York.

1025

• **BLAST NOZZLE**—A four-page illustrated circular, describing the new American-Heanium Long-Lyfe abrasive blast nozzle, has been published. The new nozzle consists of a hard ceramic insert enclosed within an improved abrasion-resisting jacket. It is claimed that this ceramic insert has a density and hardness that is superior to many of the metals now being used for this purpose. The circular contains an interesting chart showing the amount of compressed air consumed per minute by various sizes of blast nozzles. It also illustrates how this nozzle, through slow orifice enlargement, effects important savings in compressed air and power. American Foundry Equipment Co., 555 So. Byrkit St., Mishawaka, Ind.

If any of this material interests you, jot down the numbers on a postal card and send to WESTERN INDUSTRY, 503 Market Street, San Francisco. We will see that full information reaches you.

San Francisco War Clinic

Beginning February 2, San Francisco will have a permanent war clinic located in the Whitcomb hotel containing exhibits of materials needed by the government and for the information of plant executives. The exhibits will be open six days a week. R. W. Hawksley, clinic manager, will be on hand to advise potential sub-contractors seeking war work. Approximately 60 major exhibits, from various agencies of the armed forces, the Maritime commission and prime contractors will be set up. These will be changed from time to time.

Montanans, Inc.

James H. Rowe of Butte and W. G. Ferguson of Helena will continue as president and manager respectively of Montanans, Inc., the Montana state Chamber of Commerce. Annual elections were held last month.

The 1942 executive committee is composed of Mr. Rowe in addition to A. T. Peters of Billings; James J. Flaherty, head of Great Falls Paper Co., Great Falls; A. T. Hibbard, banker of Helena; W. N. Purdy, president of Bozeman Canning Co., Bozeman; W. H. McLeod, assistant manager Missoula Mercantile Co., Missoula; C. R. McClave, manager Great Falls Milling Co., Great Falls.

San Francisco C. of C.

Dwight L. Merriman, 41, native San Franciscan, last month was elected president of the San Francisco Chamber of Commerce. He is the youngest man ever to be elected to that office. He succeeded Walter A. Haas. Mr. Merriman is a member of the firm of E. S. Merriman & Sons, realtors.

Other officers elected were: Russell G. Smith of the Bank of America as first vice president; Dan E. London, manager Hotel St. Francis as second vice president; A. J. Falk, vice president of S & W Fine Foods, Inc. as third vice president. Will L. Merryman remains as executive vice president. Victor E. Breeden of R. H. Moulton & Co. was elected chamber treasurer and M. A. Hogan is treasurer.

Seek Oakland Expansion

Part of a drive to convert many industries in the metropolitan Oakland, Calif., area for vital production in the nation's war effort, A. L. Kennedy, manager of the city's Chamber of Commerce last week was in Washington conferring with government agencies. Nearly a score of sizable industrial plants in the Oakland area are now facing sharp reductions or complete curtailment in the normal production program due to war conditions, Kennedy told OPM officials.



Western Industry now has been accepted as a member of the Controlled Circulation Audit, Inc. In this way Western Industry joins that group of alert and reputable publications which have encouraged advertisers to exercise their right to know all of the facts regarding circulation.

In almost all modern industry there is a desire to furnish buyers with complete knowledge of the articles they plan to purchase; for by so doing the manufacturer obtains the trust and confidence of the purchaser. This is just what Western Industry has done—opened its books to the inspection of trained auditors. The results of this inspection are published in the shape of certified audit reports, available to anyone interested.

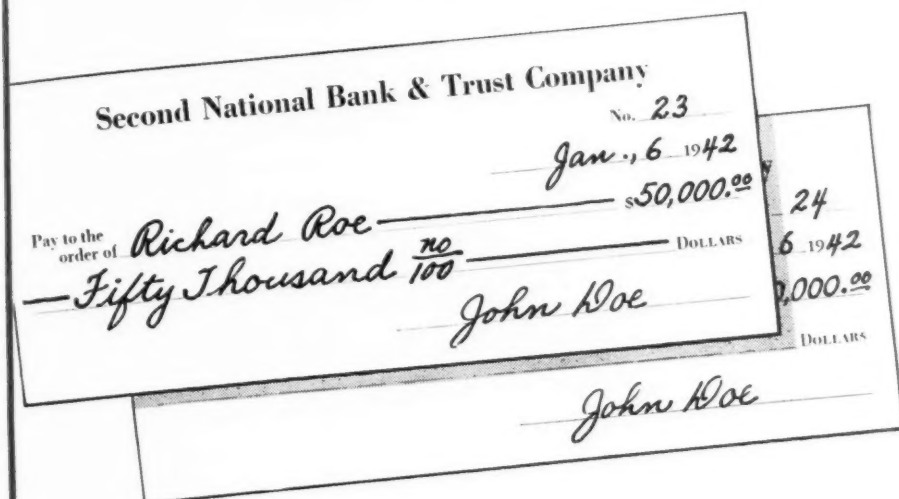
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COVER PICTURE

Enough tires to cushion the landings of 100 U. S. Army Air Corps "Flying Fortresses" are shown, in the cover picture, awaiting shipment at the aeronautical department of The B. F. Goodrich Company. These huge pneumatic rubber "doughnuts" are 55 inches high, weigh 210 pounds each with inner tube and have a maximum load-carrying capacity of 25,000 pounds.

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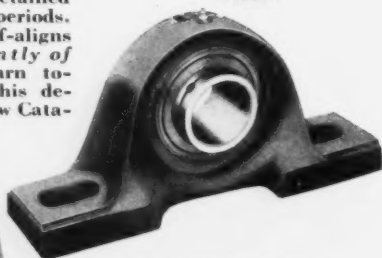
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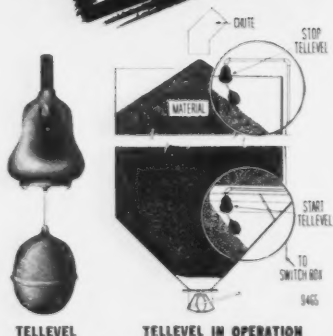
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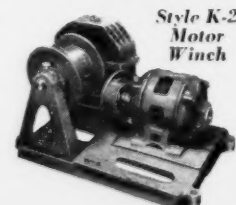
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